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ABSTRACT

Not only is there a shortage of qualified science teachers in Kenyan secondary schools, but also teachers are leaving the profession to take up nonteaching employment. A substantial number of qualified graduate teachers leave the profession soon after entering it. This loss of qualified science teachers from the profession affects Kenya's economic development, particularly in the scientific, technological, and professional sectors. This study attempts to uncover factors that affect science teacher mobility. Tape recordings, observations, and field notes were used for data collection. Through interviews with both former and current teachers the study provides insight into teaching as a profession in Kenya. The study looks at attitudes toward teaching as a career, motives for entering teaching as a career, and reflections on the actual teaching of science in secondary schools as factors related to decisions to leave the profession. The information gained from this study is used to propose changes that might contribute to the retention of qualified science teachers and attraction of talented people to the teaching profession in Kenya. Chapters include: (1) "The Provision of Scientific and Technological Expertise in Kenya: A Problem"; (2) "The Kenyan Educational System and the Provision of Science Teachers"; (3) "The Mobility of Science Teachers: A Review of the Literature"; (4) "The Design of the Research"; (5) "Perceptions of Science Teaching as a Career in Kenya"; (6) "An Analysis of Teacher Expectations in the Context of Kenyan Society"; and (7) "Mobility of Teachers and Educational Policy in Kenya." Copies of interviews with a current and former teacher are appended. There are 104 references. (KR)

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MOBILITY OF SCIENCE TEACHERS FROM KENYAN SECONDARY SCHOOLS TO OTHER EMPLOYMENT

by

Cecilia Namenge Wafubwa

A thesis submitted to the Faculty of Education

in conformity with the requirements for

the degree of Master of Education

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Abstract

Not only is there a shortage of qualified science teachers in Kenyan secondary schools, teachers are leaving the profession to take up non-teaching employment. A substantial number of qualified graduate teachers leave the profession soon after entering it. This loss of qualified science teachers from the profession affects Kenya's economic development, particularly in the scientific, technological and professional sectors. Post-secondary education institutions in Kenya that offer scientific and technological education and training are not getting enough qualified science candidates to fill the available places. This foretells problems in technological advancement and eventual economic growth of the country.

This study attempts to uncover factors that affect science teacher mobility. Eight current teachers from three different public schools within Nairobi and eight former teachers all working with the Kenya Posts and Telecommunication Corporation were interviewed. Tape recordings, observations and field notes were used for data collection. Through interviews with both former and current teachers the study provides insight into teaching as a profession in Kenya today.

The study looks at attitudes towards teaching as a career, motives for entering teaching as a career and reflections on the actual teaching of science in secondary schools as factors related to decisions to leave the profession. The study reveals that the teaching profession in Kenya is considered a problematic career option. As career opportunities increase many would rather enter professions other than teaching, but take up teaching only after they fail to enter the profession of their choice. While in the service science teachers are dissatisfied with what they perceive to be low salaries, limited career advancement opportunities, low public image, and poor working conditions characterized by lack of adequate science teaching facilities and heavy teaching loads. Although these factors instigate some science teachers to leave the profession, others do stay. Some of the factors that encourage some teachers to stay in the profession are: the joy of observing students achieve and become excited by learning, the flexibility in teaching

that permits them to do things outside the classroom and the school that are important to them and the lack of alternative jobs.

The study uses the information as a basis for proposing changes that might contribute to the retention of qualified science teachers and attraction of talented people to the teaching profession in Kenya.

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I dedicate this thesis to my husband and sons.

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CHAPTER 1

THE PROVISION OF SCIENTIFIC AND TECHNOLOGICAL EXPERTISE IN KENYA: A PROBLEM

This is a study of the perspectives of science teachers that underlie their movement from the teaching profession to other employment. It is common in Kenya and some other African countries for science teachers to leave the teaching profession for employment in both the public and the private sector. This mobility creates a shortage of science teachers who are in great demand in secondary schools. The Kenyan Government invests significant amounts of money in the recruitment and training of science teachers, yet many teach for a short time only to leave for other employment.

The rationale of this study draws support from existing literature and research findings showing that the shortage of science and mathematics teachers, which is caused partly by the exodus of the teachers, is a worldwide problem. In addition, personal experiences as a science student in high school and as a science teacher in secondary school served as an impetus to investigate the underlying factors that lead to dissatisfaction among science teachers and eventually lead to the mobility of some of them.

This study presents interview data that will contribute to an understanding of the reasons for staying or leaving the teaching profession. The decision to leave seems to be mainly influenced by economic factors. Science teachers perceive that other occupations offer higher salaries and they are attracted to these other occupations. While the principal factors affecting teachers are largely economic in nature, there are also historical, cultural values and beliefs, social and professional factors exerting strong pressure on teachers as well.

The Purpose of the Study

The purpose of this study is to investigate the mobility of science teachers in Kenya. The study explores teachers' perceptions of their work so that we might gain insight into the following aspects of it:

1. The causes of dissatisfaction amongst science teachers in secondary schools.
2. The factors that attract science teachers to other careers.
3. The factors that encourage some science teachers to remain in the profession.
4. The possible changes needed in the teaching profession in order to attract and retain more qualified science teachers.

This study documents the experiences of both current and former science teachers. Both the current and the former teachers express similar views, experiences, and perceptions about teaching as a career.

The Problem

At Kenya's independence in 1963 there were few graduate science teachers in the few secondary schools that offered science subjects. In recent years both the number of graduate science teachers and schools offering science based subjects has increased tremendously. In the present 8-4-4 system of education all secondary schools offer science subjects. This factor has led to the inadequate staffing of secondary schools with qualified science graduate teachers. As Eshiwani (1990) points out:

> Despite efforts to train more teachers, the shortage of teachers remains a problem. It is aggravated by another problem... "wastage of teachers," especially of secondary school teachers who move from the teaching profession to join other sectors of the economy (mainly private) for better remunerative offers. (p. 18)

Ominde (1964) makes a similar point: "the profession has had the dispiriting experience of seeing a large number of its better qualified members leaving to take up important administrative and industrial jobs" (p. 109). He further notes that the loss of teachers at the time of independence was inevitable because the teaching profession was the only substantial reservoir from which a skilled work force could be recruited at that time. This loss of teachers was expected to decline as the demands of the Kenyanization process declined. Unfortunately, mobility of science teachers continues three decades after independence. Eshiwani (1976) pointed out that "one of the critical problems facing Kenyan Education is the shortage of qualified teachers in science and mathematics" (p. 12). A survey done on the loss of teachers in schools showed that the lack of qualified science teachers is partly caused by many of these teachers leaving the profession to take up other employment and partly because of the limited supply from teacher training institutions (Office of the President, 1989). This mobility of science teachers causes staff shortages, constrains the teaching of science, and hence contributes to the low quality of science education.

To illustrate this point further, I draw from my personal experience as a student in high school. As students we experienced a shortage of qualified science teachers. For a time we had a qualified science teacher, but he left to take up other employment soon after we had selected subjects in my third year of secondary education one year before sitting for the "O" level examination. The class stayed without a science teacher until the school board employed an untrained teacher, who had completed sixth form, to teach physics and chemistry. The teacher taught for two terms and left to enter a university program. This left the class without a physics and chemistry teacher for a whole term before the government posted one to the school. The newly posted teacher had little time to prepare the class for the final examination and had therefore to rush through the syllabus to make sure that students had some knowledge in each of the topics in the science syllabus. As a result of the rush to cover the syllabus, the students were inadequately prepared for the practicals (laboratory work) which is an important part of the

practical examination. Feeling inadequate many students opted out of physics and chemistry to do arts based subjects. As it turned out most of those who carried on with the science subjects did not perform well in the examination.

Poor performance in public examinations in science subjects has led to student disaffection and disappointment resulting in those students dropping out of science courses. This has caused student wastage since very few students ended up studying science or science related subjects in the university. Eshiwani (1976) points out that "poor performance in science subjects naturally leads to high drop-outs in science which in the long run affects the manpower requirement of the country" (p. 2).

Later in my life as a science teacher at Hacoco Secondary School, I noticed that qualified science teachers did not stay long in the teaching profession. Within a period of one year two science teachers at Hacoco resigned from teaching to take up employment outside teaching. According to an interview with the headteacher of the school interviewed in this study, the rate of movement of teachers to other employment is higher in the science subjects than in other disciplines such as English language, history, Christian religious education, and geography. The headteacher observed that science teachers do not stay long in the teaching profession after their initial training and experiences of teaching. She said:

> They do not stay very long. In most cases you find that while here they try to get into other fields or try to go back for further studies. So we have actually had a big mobility of science teachers for quite sometime now. Actually the mobility of science teachers is much higher compared to that of arts teachers. (Interview, June 15, 1990)

She added that the remaining science teachers tend to be overloaded and that they hardly have time for thorough preparation in the subjects. The overloading of science teachers at Hacoco Secondary School seems to be similar to what is experienced by science teachers in other secondary schools in the country. This observation was expressed in the Kenyan press in 1981

that "there is a shortage of science teachers in various divisions...teachers are consequently very heavily loaded with work which means that they do not have time to prepare lessons properly" (Odhiambo, 1981, p. 3).

In such circumstances most teachers rush through the syllabus with the hope that somehow students will be able to pass their final examinations. Teachers of examination classes use time after school, on weekends and during school holidays to develop a deeper approach to the content. This process puts pressure on teachers and students as well. Despite these efforts performance in science subjects remains poor (Kamunge, 1988).

The government has realized that in order to attain full economic and political development, people well versed in scientific and technological skills are needed. It has required that all high school students take science subjects. However, as stated earlier, poor performance in science subjects results in many science-based fields and science teaching in particular not being able to recruit all the specialists they need. Science graduates join industry or private business where rewards and conditions of service are seen to be better than those in the teaching profession. The number of science teachers that leave the profession is alarming especially when the output of science teachers from the national universities is not commensurate with the need (Waithaka, 1990).

The problem that the government still has not been able to tackle is the retention of science teachers in secondary schools. To characterize the satisfactions and dissatisfactions in science teaching would contribute to our understanding of the circumstances that would enable the school system to attract and retain more qualified and competent teachers of science. This is the basis for this study.

Educational Significance of the Study

In Kenya, it is evident that there is an exodus of qualified science teachers to other professions which causes a great shortage of these teachers in secondary schools. In many cases the assumption is that teachers leave because of low salary. Attempts to establish the causes of the mobility of the teachers has been largely through surveys where questions are predetermined and therefore the scope of the answers limited. Yet we do not know how teachers themselves think about the experiences they encounter in their teaching career which contribute to their decision to leave or stay in the profession. There is a dearth of information in the literature dealing with the profession as experienced by teachers. This study is intended as an addition to the limited literature concerned with the mobility of science teachers. In this study qualitative methods are used so that science teachers can speak for themselves and thus illuminate their experiences and perceptions in greater depth than is possible with survey methods.

As Patton (1980) points out "the persons being interviewed respond in their own words to express their own personal perspectives" (p. 205). These qualitative methods not only allow the teachers to speak for themselves, but they also allow us to begin to understand the circumstances in which science teachers find themselves. The issues raised in this study and further research in this area may provide knowledge that can lead to the alleviation of the loss of science teachers from Kenyan secondary schools to other employment and thus help improve teaching of science in schools.

Overview of the Thesis

Chapter 2 describes the historical background of the teaching profession in Kenya from the pre-colonial period up to the present time. The chapter outlines the development of science education in Kenya and concludes with a section on the provision of qualified teachers for secondary schools.

Chapter 3 reviews the literature in order to understand the worldwide provision of science teachers. The chapter describes studies done in countries like the United States, the United Kingdom and Canada that have attempted to find factors that influence science teachers to leave the teaching profession. The chapter concludes by outlining the research design of the study.

In Chapter 4 discussion of data collection and analysis methods are presented. The first part of the chapter describes the method of data collection giving reasons why the method was preferred over other possible methods. The next section describes the method employed for data analysis. The chapter concludes with a description of one of the three schools (Hacoco) and the Kenya Posts and Telecommunication Corporation where data for this study were collected.

Chapter 5 presents data on teacher views and perceptions in the following categories: entry into teaching as a career; teacher perception of the status of the profession; career structure; finiancial rewards and benefits, working conditions and continuance in the profession. Chapter 6 presents the interpretation of data and Chapter 7 summarizes the major findings and considers what might be done to attract people to and retain them in science teaching.

CHAPTER 2

THE KENYAN EDUCATIONAL SYSTEM AND THE PROVISION OF SCIENCE TEACHERS

Brief History of the Teaching Profession in Kenya

This section is devoted to a description of the teaching profession and education in Kenya in a historical perspective. It is organized under the following sub-headings: pre-colonial, colonial, and post-independence periods in Kenya.

In order to understand the views of science teachers and the public perception of the teaching profession it is necessary to understand the historical background of the teaching profession in Kenya. As Campbell (1989) points out:

> As we consider where we might go in the future, there is something to be gained from knowing where we have been in the past; from knowing what has served us well and what may have soured over the course of time. (p. 19)

This will enable us to identify and understand the forces that have operated in the field of teaching in the past, to understand and appreciate the plight of teachers in Kenya better, and to help project into the future more adequately.

Pre-colonial Period

Formal western education was introduced into Kenya by missionaries around the middle of the nineteenth century as a strategy for evangelical process. Before this traditional education played a vital and effective role in African life. Traditional education aimed at fitting children into their

society, teaching them love of and respect for their families, clans, tribes, religion and traditional customs. In other words, traditional education aimed at conformity with the rigid mores of the tribe (Raju, 1973).

Traditional education provided individuals with an opportunity to acquire specialized skills such as beekeeping, wood-carving, tanning, blacksmithing, hunting, and the practice of medicine. These skills, which were passed on from father to son and acquired by practice, were important to the maintenance of society. Science was not taught as an abstract and unified body of knowledge as it is in modern education. It was "to teach the names of particular plants, the use of different trees as medicine for treatment of different ailment, or the management of a particular herd or sheep and goats or cattle" (Kenyatta, 1962, p. 117). With such knowledge the people acted and thought scientifically especially when passing on skills of the hunter, of the cultivator, of the spear maker, and of the canoe builder to the young generation. The knowledge used in all these practices was solidly based on empirical evidence, careful observation of phenomena, and logical deductions from them (Horton, 1967).

Teaching as a profession in Kenya was also started by missionaries. Their goal was the "christianization" and "civilization" of Africans. But they needed to train Africans to staff their schools and help them in the process of spreading christianity: "This resulted in training African catechists who could both preach and teach, but literacy soon became a basic concern since protestants had to be able to read the bible for baptism" (Oliver, 1952, p. 213). Since then teaching has developed into a major public institution, no longer under the directorship of the church (Ominde, 1964).

Training of the catechists by the missionaries produced teachers who could read and write in Kiswahili and their respective tribal languages. This enabled them to read and interpret the bible, write and teach others how to read the bible, and pass on knowledge of how to read and write to others. Numeracy was not an important component of the curriculum. The purpose was to "civilize the benighted heathen." The catechist teacher was involved in the spread of civilization

and christianity, so churches attached great importance to the training of their teachers. These teachers were regarded not merely as educators but as the spearheads of conversion and the exemplars of the christian way of life.

The church was very strict about moral behaviour. It was against drinking, gambling, polygamy, and laxity in church attendance. Teacher education, therefore, was designed to shape such a person. Teaching was presented as a career that "demanded a special vocation, that implied a renunciation of the goods of this world, a dedication as to a priestly calling" (Thomas, 1968, p. 34). Having been indoctrinated so, these teachers were expected to display a sense of commitment because they were religiously oriented and they felt the call to spread the word of God (Covert, 1982).

The catechists enjoyed high prestige in the village because of their education and economic status while continuing to be under the influence and scrutiny of the missionary superiors who regulated their behaviour. The status of the teacher made them treasured members of the village community, whose services were invaluable not only to children but to adults as well. According to Hanson (1967) "the teacher's rudimentary education enabled him to provide otherwise invaluable services to his fellow townsman in everything from writing personal letters to petitioning an administrator for redress of grievances" (p. 23). The teacher was the only educated person in the village. In the village the teacher acted as a community leader, an innovator, a reservoir for all superior knowledge and skill and a counsellor. As the Cameroon Provincial Delegation of Education (1973) put it:

> In the past when there were fewer literate people around the country, the teacher held an honourable position in society as an academic priest. He was consulted even on matters which he was ignorant of. The headship of a primary school was also a post of esteem and dignity. (p. 6)

The teacher catechists were held in high esteem because of their rare knowledge and association with the church. They were the most educated in the village, they were economically better off, and they melded old ways with new ways.

Colonial Period

The coming of the Europeans affected the entire fabric of African traditional culture. Even before modern western education had any impact, it became evident that the African population of Kenya would be the main source of labour for the new ruling class. Formal education was conducted on racial lines such that academic education was given to the European and Asian population while technical and vocational education was given to the African population. In this way the African was educated to form a largely labour and clerical class. As a result most high-level white collar positions as well as teaching beyond the primary level were filled by colonialists and expatriates (World Bank, 1988).

The Africans saw the provision of technical and vocational training as an attempt by the Colonial Government to give them an inferior education that would maintain their subordination. They demanded an academic education to help them progress economically, socially, and politically. Academic education was later provided by their own independent schools. Even then the number of Africans in white collar jobs was very small. In 1966, for example, there were only three graduates teaching science in secondary schools (Stabler, 1969).

During the colonial period education was strictly based on competitive examinations which determined whether one continued to secondary school education or entered teacher training. There were few places open for Africans in secondary schools, and fewer in higher education especially outside the teaching profession (Ominde, 1964). The bulk of the educated Kenyans went into the teaching profession. Teaching provided a means to rise above other brethren. Becoming a teacher was an important avenue of upward social mobility. The educated Kenyan

who joined the teaching profession was economically better off than the rest of the community and as such was accorded higher social status.

After World War II the Colonial Government realized that Kenya soon would become independent. Schools aimed at turning out a pool of Africans to fill the expanding modern sector of the economy. Training programmes became available in the railways, post office, several government departments and commercial houses as well as the secondary school teacher training colleges. With so many job opportunities teaching lost much of its appeal. With a university degree, for example, the starting salary in the civil service or private enterprise was much higher than that in the teaching profession (Stabbler, 1969). The mere fact that one was admitted into secondary school was enough to mark one as a potential member of the elite. Those who did not do well in exams or failed to get places in secondary schools found their way into teacher training colleges. As Cameron (1970) notes:

> Teacher education was in the eyes of too many education officials and expatriate teachers regarded as an inferior form of activity as compared with secondary education. It was too readily pointed out that most of the students admitted to teacher colleges were those who had failed to secure entry to a secondary school. (p. 57)

The Government having itself a small stake in teacher training allocated more money per student to secondary schools than to teacher training colleges. During this time secondary schools were staffed mainly by expatriates. The number of African students who were able to qualify for entry to upper primary or secondary schools and eventually proceed to secondary teacher training was very low and it was impossible to rapidly increase the number of qualified science teachers.

Although teachers were not as highly paid as government workers the ordinary people held them in high esteem because education was the ladder that ultimately led to wealth, power, and prestige.

Post-Independence Period

With the attainment of independence the Government realized that the education system it had inherited was not adequate to meet its needs for self-governance and rapid economic growth. It was necessary to reconstruct the education system to meet the needs of an independent country.

Racially separate schools were integrated to foster national unity. Enrollment of African students in schools was increased so as to provide an indigenous trained manpower in major areas such as in the white-collar jobs of the medical, industrial, technical, and agricultural sectors. The curriculum was reformed to appropriately express the aspirations and cultural values of an independent African country and unified so that all primary and secondary schools could use the same curriculum. The government efforts in education were summarized as follows:

> Education must serve the needs of national development...assist in fostering and promoting national unity, prepare and equip the youth of the country so that they can play an effective role in the life of the nation, whilst ensuring that opportunities are provided for the full development of talents and personality...assist in the promotion of social equality and training obligations and responsibilities....[and] respect, foster and develop our rich and varied cultures. (Government of Kenya, 1971, p. 146)

To this end the government recommended rapid expansion of higher and secondary education so as to provide highly qualified Kenyans to fill these high level positions especially in science areas (Kenya Ministry of Education, 1965). But the highest priority was placed on the expansion of secondary schools, technical and trade schools and training colleges. There was a determined effort which aimed at increasing the number of African secondary school teachers (Government of Kenya, 1970). This was important because if expatriates were to be replaced in the secondary school teaching and in the public service, and if Africans were to be trained for the

professions and occupations that were now open to them, educational goals had to be related to manpower demands.

At independence in 1963 there was suddenly a large number of job openings both in the public and the private sectors that had to be filled by Kenyans. The teaching profession as the only substantial reservoir of educated Kenyans became the major pool of badly needed trained and educated manpower in the civil service, politics and private industry (Maleche, 1974). As a result there was an exodus of qualified teachers to fill these available posts.

As before, in present day Kenya, the teaching profession continues to be used as a stepping stone to "greener pastures." Commerce, industry, and public corporations have continued to draw a sizeable percentage of their staff from the teaching profession. The teaching profession acts as a bridge between schooling and other professions. This means that teaching is seen not as an end in itself but as a means towards another end. Brown (1974) notes that:

> In developing countries that have newly achieved independence, the pattern in the past has very frequently been: enjoy an education, become a teacher, move on, become a politician or a civil servant and enjoy better material conditions." Today the situation is epitomized by the attitude of the parent who said "I want my son to have a good education but I don't want him to become a teacher." (p. 31)

The government has placed a high priority on the training of science teachers. Teacher education is in the forefront of planning priorities and one might expect it to quickly acquire the status it deserves. However, as Eshiwani (1976) points out, "science teaching has to compete with engineering, medicine, agriculture, veterinary science, and a host of jobs in the private sector open to science graduates even if they make virtually no use of their special training and ability" (p. 14).

So far the historical background of education in Kenya, has been described. Traditional non-formal education was replaced by the formal Western education introduced in Kenya by the missionaries. This form of education was later developed by colonialists on racial lines. The

education offered to Africans did not emphasize science subjects. Even when sciences were offered to Africans they were presented as hard and difficult subjects. This instilled fear into Africans about sciences. The Government has attempted to restructure the education system to incorporate sciences. What has been the history of science education in Kenya? Let us now consider briefly the progress of science education since independence.

The Provision of Science Teachers

Science Education in Kenya

At independence Kenya's educational system was based on the British model of 16 years divided into 7-4-2-3 (7 years of primary, 4 years of secondary, 2 years of higher and 3 years of university). This system comprised ordinary ("O") and advanced ("A") level examinations. In this system of education there was no emphasis on science subjects for Africans. The exclusion of science education from the African curriculum during the colonial period was founded in part on the belief that Africans were a pre-scientific people lacking the capacity to master western science (Eisemon, 1982). Even when academic education was introduced to Africans, science and mathematics did not receive the attention accorded other disciplines such as English literature, history, latin and religious education. When science and mathematics were taught, they were presented as "difficult subjects" which could only be done well by those who were intellectually gifted. Consequently both primary and secondary schools concentrated on an arts-based curriculum. The number of African students who opted for science subjects or science-related careers was very small. Few students were available to train as scientists, mathematicians, technicians, or as science teachers.

Shortly after independence Tom M'boya, Kenya's first minister for economic planning and development warned "that the back log, call it what you will, in our scientific advancement

represents a gap that must rapidly be bridged" (M'boya, 1966, p. 9). The government realized that scientific development is essential to the achievement of the country's social, economic, and political development. This has been reflected in President Moi's words "science is the key to progress" which were read in a speech at the opening of an international scientific conference in Nairobi (M'Mugambi, 1980). Scientists are seen, by implication, to be the instruments for achieving pervasive social and economic transformation.

The government has had several ambitious plans for scientific development in secondary schools and at the university level. Initially, although science subjects were emphasized in the curriculum, they remained optional and few secondary schools offered them. In 1987 only 38% of secondary schools offered science subjects while 62% of secondary schools offered arts subjects at "A" level (Yussufu, 1990). As a result the output of science students qualified for training in the various science fields has not been able to meet the requirements of the country and the teaching profession.

In the past two decades the structure of schooling inherited at independence has been modified. Presently, Kenya has an 8-4-4 system of education (8 years of primary, 4 years of secondary, and 4 years of university). The four secondary years lead to an "Ordinary" level certificate and science subjects are compulsory. The 8-4-4 system of education is vocationally oriented and practical in its approach. This is intended to develop skills for self-reliance and self-employment so as to prepare school leavers for further education, training or employment (Kenya Ministry of Education, 1984).

National examinations are very important. The Kenya Certificate of Primary Education allows entrance to secondary schools and the Kenya Certificate of Secondary Education determines who goes to university, and into which fields.

With a wide range of career options open to school leavers, students who do well in sciences can have high career expectations. It is not yet clear how the move to make science subjects compulsory for all students is going to change student attitudes to teaching as an attractive career

option. It is important to begin to explore the underlying factors that make the teaching profession in Kenya attractive or not to school leavers and which influence decisions to leave the profession. Among the factors is the training process itself and it is to this part of the background that we now turn.

The Training Process

The provision of professionally trained secondary school teachers has always been a major priority of the Government (Kamunge, 1988). Teachers are trained at the universities (graduate teachers) or secondary teacher training colleges (non-graduate teachers). At the university, trainees either are admitted directly to a three year B.Ed. programme or to a three year general degree programme after which they take one year postgraduate diploma in education to become trained graduate teachers. In secondary teacher training colleges after three years teacher trainees graduate as qualified non-graduate teachers. After training both graduate and non-graduate teachers are posted to similar schools and they work under the same conditions except they teach at different levels and they are paid differently.

The government has increased the number of universities from one to four and the intake of teacher trainees in order to meet the high demand for qualified science teachers in secondary schools (see Table 1). As the table shows the number of graduate teachers has more than kept pace with non-graduate teachers.

In 1988 the Minister for Education increased enrollment in courses in education to almost 7,000 in order to alleviate the serious shortage of trained teachers in the country (Kenya Ministry of Education, 1988). The Minister pointed out that with the increase in graduate teacher trainees, the government hopes to eventually eliminate the acute shortage of secondary school teachers which is emerging under the 8-4-4 system of education. In addition, the government will train more graduate teachers.

Table 1

Numbers of Secondary Trained Teachers by Qualification 1980-1986

Year	Graduate teachers	Non-graduate teachers
1980	3,186	3,037
1981	3,579	2,545
1982	3,693	2,994
1983	3,923	3,079
1984	5,249	4,214
1985	6,126	5,002
1986	6,427	5,837

Source: Kenya Ministry of Education.

Additionally, the government, in collaboration with the University Joint Admission Board, has lowered the minimum entry requirements for science-related courses and for education courses. The strategy of lowering entry requirements for education courses is used by the university to attract into teaching school leavers who have failed to meet the entry requirements for other science-related fields (Oyuke, 1990). It is hoped that more science students will be attracted into teaching. As of July 1990 there was a total of 33,000 secondary school teachers, of which 5,697 were trained science teachers (Teachers Service Commission, raw data, 1990). The number of trained *graduate* science teachers is even smaller. The Director of Education stated recently that "the output of science teachers from the national universities was not commensurate with the number of the existing public schools, a problem he admits has led to the employment of untrained and unqualified teachers" ("Science teaching," 1990). Numbers of science teachers are reduced even further by the exodus of these teachers to non-teaching jobs. As can be seen in Table 2 the annual wastage of trained teachers is projected to increase.

With this background information in the Kenyan context it is important to begin to explore and address the underlying factors that have contributed to the mobility of teachers.

Table 2

Projected Wastage of Trained Teachers in Public Secondary Schools

Year	Trained teachers	Wastage	Annual wastage (%)
1987	32,369	1,552	4.79
1988	33,844	1,718	5.08
1989	42,560	1,885	4.43
1990	43,427	2,051	4.72
1991	45,794	2,228	4.87
1992	46,757	2,384	5.10
1993	47,402	2,550	5.38

Source: Kenya TSC, Computer Section.

An examination of the factors might help us understand what might be done to make the teaching profession as attractive as other professions, and hence to attract and retain more qualified people in the profession. The next chapter takes us a step further and looks at some of the factors identified in the literature to influence teachers' decisions to leave the profession in developed countries.

CHAPTER 3

THE MOBILITY OF SCIENCE TEACHERS: A REVIEW OF THE LITERATURE

This chapter presents a review of the literature on the factors that contribute to the mobility of science teachers from the teaching profession to other forms of employment. The first section of the chapter considers the worldwide trends in the provision of science teachers and the effect of attrition of teachers on science education. The second section considers research findings on the factors that lead to the mobility of science teachers. Most of the review is on the work that has been done in the United States, the United Kingdom and Canada. These studies, although not conducted in the Kenyan context, point to the factors affecting mobility of teachers which were considered in the design of this study.

Worldwide Trends in the Provision of Science Teachers

In the United States the quality of science education acquired by students in high schools is thought to be lower than the quality of education acquired by their parents (National Commission on Excellence in Education, 1983). Studies done to find out the cause of the low quality of science education reported that there was a shortage of qualified science teachers, apparently caused by attrition of qualified teachers. Attrition rates were found to be high, particularly among beginning teachers in American schools (Charters, 1970; Heynes, 1988; Mark & Anderson, 1978, 1985).

It has been found that teachers who do remain in teaching for five or more years are likely to continue teaching (Murnane, Ringer, & Willett, 1988; Grissmer & Kirby, 1987). Murnane et al. (1988) found that survival rates of teachers differ by age and by gender especially among young teachers. For example, there is no difference among older teachers of both sexes but among young teachers men stay longer than women in their early years of teaching, but on the whole

more men than women leave teaching. Teachers leave teaching not only because they are "pushed" out by frustration, but they are also "pulled" to alternative opportunities including full-time childrearing and more lucrative employment.

Young women, the group most likely to engage in full-time childbearing, experience a higher attrition rate than other groups. However, these women are more likely to return to the classroom than other teachers who quit. Teachers who leave teaching to pursue careers in other occupations where there are greater financial rewards are less likely to consider returning to teaching. This is more so for male chemistry and physics teachers.

Some studies suggest that highly qualified teachers are more dissatisfied than teachers with lower qualifications (Darling-Hammond, 1984; Darling-Hammond & Wise, 1983; Wise, 1986). More academically competent graduates of teacher education programs are less likely to enter the teaching profession (Pigge, 1985), or to pursue careers in teaching for as long as their less competent counterparts (Vance & Schlechty, 1982). Principal factors prompting qualified teachers to leave teaching include: low salary, lack of professional growth and respect, and teaching conditions which include heavy workloads and extra responsibilities (National Science Board, 1987; National Education Association, 1987). Let us look more closely at these factors as they are discussed in the literature.

Factors Affecting Mobility

A study conducted by Hounshell and Griffin (1989) in the United States to find out why American science teachers leave teaching, cited a variety of factors that cause dissatisfaction among them. The foremost was concern over salary. The teachers felt that salary was low overall and peaked too soon. The teachers also felt that the profession received little respect from the public in general, from students and, most devastatingly, from the parents. Student behaviour and apathy towards learning contributed to the discouragement of science teachers.

However, some science teachers expressed satisfaction in the teaching profession. The latter group gave the following as reasons contributing to their satisfaction: pleasure of relationship with students, getting to know students, personal involvement with students, and the joy of observing students achieve and become excited by learning.

Earlier studies in the United States cited similar factors. For example, Gallup (1984) indicated that the American public image of schools and teachers had deteriorated in the last 16 years. Bowman (1984) found that science teachers experienced lack of administrative support, lack of parental support, and discipline problems with students. The National Education Association (1983) also found that:

> Beginning salaries for teachers were lower than those of other fields requiring a bachelor's degree. In addition, even when teaching salaries were adjusted to reflect twelve-month salary equivalent, they fell short of the next lowest category of the other graduates and also teachers' salaries reach a ceiling much sooner and at a much lower level than do the salaries of other college-educated workers. (p. 22)

Wise (1986) pointed out that starting salaries for teachers in the United States are only a little lower than starting salaries for other occupations that require a college degree. He said that because competitive pay increases are not forthcoming many science teachers remain in the classroom only temporarily. Poorly equipped laboratories, inadequate budgets, isolation, difficulty in keeping professionally active, and multiple assignments which include heavy working loads and extra responsibilities are factors that lead to dissatisfaction among science teachers and that prompt some teachers to leave the profession (Porter & Kelly, 1983). Warren (1985) reported that teachers in the United States enjoy no better public perception than twenty years ago despite alterations in the teaching force.

Low salary was a major cause of stress in British high-school teachers, especially when aspects of inflation were considered (Kyriacou & Sutcliffe, 1978). They reported that teachers who considered leaving the profession gave poor salary, poor promotion, and general

dissatisfaction as reasons for male teachers to leave the profession while having a baby by female teachers. Vernon (1978) pointed out that the most disheartening aspects of teachers' salaries in the United Kingdom were the conditions of service. De Zoysa (1986) reported that the education system in England was experiencing an unprecedented wave of strikes by teachers protesting inadequate pay and limited promotion.

McConaghy (1986) reported that in the late 1950s there was a tremendous growth in school enrollment in Canada. Because of the increased demand for teachers many classrooms were staffed by teachers who had no professional training or who qualified by taking a six-week crash programme. The majority of the teachers had only the minimum requirements of one year of teacher training and very few had university degrees, and because of this teaching did not appear in the top occupational category which included lawyers, physicians, engineers, and architects. The image of teachers in the media was unflattering. Teachers were depicted as:

> Tyrannical, brutal, pedantic, awkward, queer, and depressed...the teacher is regarded with very mixed feelings by the public at large and even by individuals. Respect is mixed with ridicule, fear with affection, and admiration with contempt. (p. 681)

McConaghy notes that teachers are now better educated and working conditions have improved, salaries have been raised but yet in many ways the public perception of teachers has not improved.

Where do these studies lead us in the case of the present research? It is to the implication of these studies for the research design that we now turn.

Implications for the Research Design

The literature cited here suggests that salary and working conditions are important potential factors affecting mobility of qualified teachers from the teaching profession to other employment.

These factors are considered in the design of this study, as well as other factors that emerged as the study proceeded. The research method, accordingly, involves gathering information about entry into teaching, public image of the teacher, working conditions, salary, and promotion as factors that may contribute to science teachers' decision to leave the profession. In addition, although the cited literature has not considered the remedy to the problem of the mobility of science teachers, this study will consider possible changes that might be made to attract and retain more science teachers in Kenyan secondary schools. Such data provide a background to the views and perceptions of both current and former trained teachers interviewed in this study which will help us understand the "world" of the teaching profession in Kenya.

CHAPTER 4

THE DESIGN OF THE RESEARCH

This chapter describes the strategies used to collect and analyze data for this study. The first section describes the strategies for data collection which is followed by a section on the selection of participants for the study. The next section considers the procedures employed in the analysis of data. The chapter concludes with a description of the research sites and biographical information about the participants. One of the three schools (Hacoco Secondary School) and Kenya Posts and Telecommunication Corporation are described. The other schools are essentially similar to Hacoco Secondary School. In this and subsequent chapters the term "current teacher" will refer to the teachers who were still teaching at the time this study was conducted; "former teacher" refers to those teachers who had left the teaching profession at the time of the study.

Strategies for Data Collection

Data for this study were collected through interview and observation methods. The rationale behind choosing one method over another is connected to the nature of the subjects being studied and the underlying goals of the research. Since this study explores the complex interconnection between science teacher beliefs and actions, a method incorporating the existential experiences of the participants themselves, as the focus for investigation and interpretation is necessary. Accordingly, the method used to collect and analyze data is one associated with qualitative field studies (Hansen, 1979; Pelto & Pelto, 1978; Spradley, 1979). This method is used because in it one is free to combine a variety of data gathering methods, and to allow for the generation of analysis grounded in recorded data concerning the professional perspectives of science teachers.

The Selection of Participants

To be able to address the problem of teacher mobility and hence be able to answer the research questions, 16 trained graduate teachers participated in this study. Of the 16 teachers 8 were at the time in classroom teaching and 8 had left the profession. It was necessary to have both current and former teachers so that comparisons could be made concerning their views and perceptions of teaching career. Similarly the former teachers could state exactly what attracted them away from teaching in secondary schools, give their views of what it is that they have found in their present jobs that was lacking in teaching and what changes are necessary in teaching to attract them back. The eight current teachers were selected from three public secondary schools, Hacoco, Ngahiho and Monabi, within Nairobi city. All current teachers had been teaching for a minimum of six years. This is a suitable group of teachers for this study because six years is time enough for them to have formed an impression of science teaching and teaching as a profession. These teachers had taught in both the old (7-4-2-3) and the new (8-4-4) systems of education and therefore were in a position to make comparisons between the two systems. All former teachers were working within Nairobi in different sections of Kenya Posts and Telecommunication Corporation (KP&TC). The three schools and KP&TC were selected for this study because they were conveniently accessible by public means.

Interview Procedure

The major data collection strategy was tape recorded informal interviews with each of the participants. This strategy was used because it allows for flexibility in question order, and enables the interviewer and the interviewee to be in a more natural and responsive discourse situation (Goetz & LeCompte, 1984; Woods, 1986). This method of data collection also allows probing in order to enhance explanation and clarification of the interviewee's responses (Patton, 1980; Ball,

1983). In addition this interview method is effective in establishing rapport and makes the inquiry one in which the interviewees are not treated as objects but as subjects. In such a friendly atmosphere the views of the participants about science teaching and teaching as a career can be revealed.

Interviews with the current teachers were preceded by classroom observations. Although rapport with the participants was established and the promise made that their identity would not be disclosed in any way, they still expressed discomfort with the idea of having their lessons observed and the interviews tape-recorded. This was because the interviewer was being viewed as a school inspector or as an agent of the school inspectorate. School Inspectors in Kenya are viewed as "witch hunters" who come to look for the wrongs of teachers and deal with them accordingly, and not as colleagues with experience from which teachers can benefit. Naturally, the participants were worried initially about their job security. However, during the course of data collection, they became convinced of the sincerity of the interviewer and were able to contribute as colleagues.

Through interviews with current teachers it was possible to discover their views about and attitudes towards the teaching profession, how they joined the profession, science teaching and the problems encountered, school administration, public perception of teachers, teaching as a career, and the possible changes that might be made to make the teaching profession more attractive. Interviews with former science teachers covered similar questions. In addition, they answered questions about what attracted them away from teaching in secondary schools and what possible changes might be necessary to attract and retain more qualified people in Kenyan secondary schools.

An interview with the headteacher of Hacoco Secondary School provided valuable information about the extent of the exodus of science teachers and the effect of the mobility of science teachers on the remaining science teachers, on students and on school administration. Data for this study were also obtained from the unpublished teacher statistics from the Teachers Service

Commission, material in the *Weekly Review* and the published papers from the Bureau of Educational Research of Kenyatta University.

Interviews with both current and former teachers took place during the period of May to August 1990. All the participants were interviewed at their respective places of work during times convenient to them. Each participant was interviewed once since it became impossible to arrange for second interviews because of work commitments.

Each interview lasted approximately one hour and was tape-recorded. Permission to record the interviews was obtained from each informant before the interview proceeded and a signed consent form was provided as an agreement that their identity would be protected. The participant observations and the construction of field notes enriched the data of this study. Field notes were taken to record impressions expressed non-verbally in the interviews.

The following topics formed the basis of the interview:

1. Science teaching: the discussion covered experiences of science teaching including the workload of science teachers, problems encountered in science teaching, how teacher training has or hasn't contributed to their teaching.
2. Teaching as a career: the discussion explored how the participants joined the teaching profession, and their attitude towards teaching as a career.
3. Public image: the discussion explored how teachers feel they are perceived by the general public.
4. What attracts science teachers to other employment: the interview focused on factors that attract people away from teaching in secondary schools to other employment.
5. What makes teachers stay in the profession: the interview focussed on factors that encourage people to stay in the profession.
6. Possible changes: participants were asked questions concerning possible changes that need to be made in the teaching profession to make teaching more appealing so as to retain those people who join it.

The tapes containing interviews were listened to immediately after each interview to make sure that all the material had been tape-recorded. All the tapes were transcribed. This process made it easier to more accurately record the essence of the discussions and to complete portions of the tapes that were inaudible. This process revealed that two interviews with former teachers were not recorded because of a technical fault. Arrangements to repeat these interviews were made and the interviews conducted.

The Analysis of Data

The "constant comparative" method of data analysis was used to develop an understanding of the data about science teachers' perceptions about teaching as a career. According to Goetz and LeCompte (1981), the researcher simultaneously codes and analyses data in order to develop concepts by continually comparing specific incidents in the data. The researcher refines these concepts, identifies their properties, explores their relationships to one another, and integrates them into a coherent picture. In this way data collection and analysis proceed together. The search for patterns and regularities were sought in the professional perspectives during data collection, while interviewing, listening to tape-recordings of interviews, during the transcribing process of the taped interviews, and the analysis of field notes.

Interviews, observations, and field notes were reviewed daily throughout the field work. Incidents and items of information were at first coded into tentative categories. As these categories emerged, questions arose that were used to guide further investigation in the field. These investigations were compared to the initial categories. As the analysis continued, attention was given to data that challenged original conceptualizations (Erikson, 1973). Through constant comparison of data, analytical categories are crystallized.

In line with the thinking of Glaser and Strauss (1967) the analysis presented in this study takes a narrative descriptive form, using examples from data to clarify concepts and to demonstrate the

interrelationship between the analysis and social reality. From this perspective, analysis is not a static product. Instead, it is viewed as "an ever-developing entity" (Glaser & Strauss, 1967, p. 32).

The following sections give a description of research sites and the participants of this study.

The Research Sites

Hacoco Boys Secondary School

Hacoco Secondary School is a day school which was built in 1962 during the colonial era. The school was established to serve the male children of the Asian community in Kenya. Immediately after independence in 1963 the policy of racial segregation in education was abolished, and the school admits students from all races.

Hacoco school is built on a 50 acre piece of land situated on the southern side of the city of Nairobi. The school has a number of playing fields including two soccer fields, two basketball courts, two volleyball courts, two pitches for long and high jump events, a field of lawn tennis, and a separate field for athletics.

The school has several separate buildings. At the front of the school compound there is an administrative block which houses the headteacher's offices, the staffroom, the bookstore, the school hall, and the drawing and design room. Near the administrative block is a two storey block containing science laboratories, preparation rooms and store rooms. Science teachers meet in the staffroom during their tea break and staff meetings.

Classrooms are located in one storey blocks, one of which houses the metal and wood workshops and the other the library. There is also a canteen where students go for their tea and lunch break. There are two houses on the school compound for non-teaching staff. An additional building is used for poultry keeping for agricultural subjects. Four acres of land in the compound

are set aside for practical work in agricultural education. There is also a garage for the school truck. The staff flats are two kilometres away from the school compound. The flats accommodate 8 of the 54 members of staff. The staff comprises both graduate and non-graduate teachers of science and arts subjects and 20 members of non-teaching staff.

The school has over 800 students and is streamed in such a way that forms one (grade 9) and two (grade 10) have five streams each with 40 students. Form three (grade 11) and four (grade 12) have four streams each with 40 students. Eighty per cent of the students come from within the city and travel to the school by bus or "matatu" (mini-buses used for quick transportation in the city). Access to the school is through well established roads leading from and to residential areas.

Science subjects are compulsory for all students in forms one to four. Theory lessons are conducted in the classrooms while practical lessons are conducted in the laboratories. The laboratories are usually crowded, an indication that the laboratories were constructed for a smaller number of students.

Five teachers at this School volunteered to participate in the study. Omondi has been teaching for 8 years and has been in the school for 3 years. Grace has been teaching for 10 years and has taught in the school for the last 4 years. Kim, the head of chemistry department, has been teaching for 20 years and has taught at the school for 11 years. George has been teaching for 10 years and has been in the school for 9 years. Masika, the head of biology department, has been teaching for 12 years, and has been in the school for 8 years.

At Ngahiho secondary school two teachers volunteered to participate in this study. Macharia, has been teaching for 13 years and has been in the school for 2 years. John, the head of physics department, has been teaching for 14 years and has been in the school for 2 years.

At Monabi secondary school one teacher volunteered to participate in this study. Rose has been teaching for 8 years and has been in the school for 4 years.

Kenya Posts and Telecommunications Corporation

Kenya Posts and Telecommunication Corporation is one of the largest parastatal organizations in Kenya. It was established by an act of parliament in 1977 after the East African Community collapsed. By the act of parliament, KP&TC was empowered to develop and maintain a comprehensive postal and telecommunication network in Kenya. From the time of KP&TC inception there has been insatiable and growing demand for telephone, telex and telegraph services. These services were urgently needed to sustain and further develop Kenya's fast growing economy. KP&TC has embarked on a series of development plans geared to expansion, modernization and diversification of its services. The expansion has been in areas of administration, personnel, training, operations, engineering, computer science, telephones, telex, telegraph, and postage most of which require scientific technology. The expansion of telecommunication services in Kenya has created a greater demand for staff, and additional job opportunities. Telecommunication is a major source of employment for thousands of Kenyans.

Employment opportunities in KP&TC have attracted people of all walks of life provided they meet the entry requirements. Because of the demand for scientific skills, the former science teachers with mathematics and scientific backgrounds have found their way there.

All the former teachers who volunteered to participate in this study were housed by the corporation. The houses were described as fully furnished middle class houses. While on duty outside their stations, the officers are entitled to subsistence allowance depending on the duties being performed outside their working stations. In addition, the officers are provided with transport during their official duties outside their usual stations. The officers are also entitled to free medical facilities. The employee can engage a private doctor for himself or for a family member and the corporation pays. The officers suggested that they had generous loan facilities with easy repayment terms for the purchase of a car or a house. All former teachers have bought cars.

Before joining KP&TC, the former teachers had taught in secondary schools for a period ranging from three months to seven years. They have worked with KP&TC for a period ranging from 5 to 12 years. They were initially appointed as assistant telecommunication controllers at KP&TC. Each has had some form of promotion. For example, one has been promoted to a senior instructor, two have been promoted to senior telecommunication controller, two to assistant managers, and three to managers.

We turn now to the views and experiences of science teachers interviewed in this study.

CHAPTER 5

PERCEPTIONS OF SCIENCE TEACHING AS A CAREER IN KENYA

This chapter presents the results of interviews with both the current and the former science teachers about their perceptions of teaching as a career. The findings are presented in six sections: entry to teaching as a career, teacher perception of the status of the profession, financial rewards and benefits, the career structure, working conditions, and continuance in the profession. The purpose of this chapter is to capture the views of the teachers who participated in this study.

As we see teachers felt that in the teaching profession, financial rewards and other benefits, and promotion opportunities are low compared to those in the non-teaching professions. The findings also indicate that poor public image is compounded by poor working conditions, inadequate science teaching facilities and too intense a curriculum given the length of the school year. Each of these points will be discussed systematically below. Below CNW is used to denote the speech of the researcher and the uppercase pseudonyms denote the speech of the teachers.

Entry to Teaching as a Career

This section illustrates the ways in which science teachers entered the teaching profession. It is seen that while some teachers had an interest in teaching, others entered into the profession by default. Grace, a current teacher, said that her admiration of her female teachers was what prompted her to join the teaching profession after completing her secondary education.

CNW: How did you become a teacher?

GRACE: [In fact] before I became a teacher, I used to admire my female teachers. I was impressed by the way they took care of their families. These teachers

managed their responsibilities quite well and it made me feel teaching was a very good job for a woman.

Rose, another current teacher had similar views stemming from her view of her mother as a role model.

ROSE: My mother was a teacher and she coped quite well with her job as a teacher and as a mother. She gave us enough attention when we needed it. This made me feel teaching was the best job a woman could join.

Grace and Rose thought teaching would allow them to reconcile the demands of family life with work responsibilities. Their interest in teaching as a career seems to have been prompted by the thought of future roles and responsibilities as mothers and the flexibility that teaching offered. While both Grace and Rose felt strongly about teaching as a career, Kim, another current teacher, was influenced by her parents to join the profession.

KIM: Initially I wanted to be a pharmacist. But my parents were quite strict. They did not want me to do any other job except teaching. That is how I landed into teaching.

In the Kenyan context a woman is expected to marry and attend to family responsibilities. Teaching is seen as an appropriate career allowing women to work and at the same time manage the household and family. Kim's parents reflect traditional views about a woman's role in society.

While female teachers were motivated to join the teaching profession by their future responsibilities as mothers and wives, male teachers were interested in teaching for completely different reasons. George, was motivated to join the teaching profession by the assurance of getting a job.

GEORGE: I think I had some interest in teaching as a profession. Teacher training takes a short time while the training of other professions may take a longer time. At the same time, with respect to some professions, one is never quite assured of

getting a job after the training. In the teaching profession you are assured of a job immediately you finish training.

Mutisya, a former teacher, preferred education to general degree courses for similar reasons.

MUTISYA: I wanted to do engineering at the university. However, I was also keen to choose teaching as a second priority in case I did not get courses in engineering. I wanted teaching as opposed to general degrees because I wanted to be assured of a job after training. I did not want to stay without a job after training.

These teachers were motivated to join the teaching profession because of the job assurance offered by the teacher employer. This could be explained by the fact that there is a high demand for qualified teachers in secondary schools. On the other hand, Mark a former teacher, was motivated to join the teaching profession by the marketability of science teachers.

MARK: It was a question of choice, actually. I had fairly high expectations to pursue a different course from that of teaching. So I was admitted into a B.Sc degree course. However, out of association with professors in the faculty of education, I was given the impression that I would be more marketable if I attempted courses with education. So I ended up changing to a bachelor of education in science course.

CNW: What do you mean you would be marketable?

MARK: Well, at that time, and I think it is still the case now, once you train as a teacher, you get employed immediately on completion of the training. With other courses you are not sure of when you get employed after training. I had also noticed that people who had science B.Ed degree were highly marketable outside of teaching.

CNW: What makes science teachers more attractive outside teaching?

MARK: The teacher training prepares teachers in many other fields, like administration. So the teacher fits quite well in other fields.

It can be seen that these male teachers entered teaching because teaching could accommodate their expectations. However, some other male teachers entered into teaching by default. We turn now to the views of these teachers. Omondi a current teacher, says:

OMONDI: After my "A" levels, I applied for several courses. One of the courses was education. It so happened that I was taken in for education in one of the universities.

CNW: Did you have interest in teaching as a career?

OMONDI: I must confess I was not sure of what the courses involved and the requirements for the courses.

Mayende, a former teacher, entered into teaching by default also for lack of information.

MAYENDE: I became a teacher by pure accident. We did not have career guidance and counselling, therefore I did not know what to choose for a career. My teacher, however, chose engineering courses for me. Unfortunately I did not do well in mathematics. As a result I was admitted to do a bachelor of science general degree. But later I did a diploma in education, so I came out as a science teacher.

The experience of these teachers suggest that they lacked information about career options. Others initially did not consider teaching as a viable career option. Masika, a current teacher, said:

MASIKA: Well, my main intention was not to become a teacher. But I did not do so well in examinations. I could not be selected for the career I was interested in. I decided to take up teaching.

CNW: Does that mean that the teaching profession has lower entry requirements?

MASIKA: Yes, in terms of points, education has lower entry requirements compared to other professional courses like medical, architecture or engineering.

Ndirangu, a former teacher, expressed similar points and added that he was discouraged from making education his priority because of the low status accorded teachers.

NDIRANGU: I trained as a teacher, although teaching was my fourth choice. Initially I wanted to do engineering courses but I did not acquire the required entry points for engineering. Education courses had lower entry points then. They required minimum of 7 points while engineering then required about 10 or 11 minimum points. Since I had acquired 9 points I could not be selected for engineering which I wanted, instead I was selected for education courses.

CNW: Why did you rate teaching fourth among your career choices?

NDIRANGU: There were a number of factors. First people who joined university to do B.Sc general degree would feel that they had achieved more than the people who had gone for B.Ed (science) degree. It gave an impression like: "look around, who has ever been famous as a teacher?" Secondly, teaching did not stand out as one of the top professions in terms of monetary satisfaction and society respect. In fact some of my teachers outrightly said that "teaching was the worst profession one could ever join." So I wanted to get a profession that would give me attractive monetary rewards and status in society.

Ali, another former teacher, also did not meet entry requirements for selection into engineering courses.

ALI: Initially, I had thought of professional courses in engineering. I wanted to get something like bachelor of science general degree.

CNW: Was there anything that made you think of engineering rather than teaching as a future career?

ALI: Actually, there was nothing, really, other than the honour given to successful engineers.

Finally some teachers were induced to join the teaching profession. Wasike, a former teacher, is an example.

WASIKE: After my sixth form, I got a scholarship to go to Oregon State University U.S.A. in 1968. When I came back in 1971, the country was lacking science teachers. I was asked to go for a postgraduate diploma in education to become a qualified science teacher. In fact we were being paid tax free (1,500 Kenya shillings) in addition to being accommodated in the halls of residence. That is how I became a teacher.

CNW: Does that mean, you did not have an interest in teaching as a career?

WASIKE: No. I was not intending to be a teacher at all. Initially, I was interested in engineering. But because I had been given a condition that we work for the government for at least two years I had no choice.

It is evident from the responses of both the current and the former teachers, especially the male teachers, that for most of them teaching was an unattractive career alternative. These teachers think that the teaching profession has a low status and low monetary rewards compared to other professions, and that teachers are not accorded the esteem and prestige accorded people in other professions. However, these teachers finally entered the teaching profession for various reasons: (a) failure to meet entry requirements for courses of their choice, (b) influence of others, (c) lack of career guidance and counselling, and (d) lower entry requirements into the teaching profession compared to professions like engineering. Thus most of these teachers entered teacher training at the universities with a lack of aspiration and they started this difficult career wishing they were elsewhere.

The prestige and the status accorded the teaching profession by the public is an important issue when these teachers were considering their career options. Their views about how they feel they are perceived by the public is considered in greater detail in the following section.

Teacher Perception of the Status of the Profession

Both the current and the former teachers who participated in this study said that they did not have prestige and status in society. They said they were dissatisfied with the low status accorded the teaching profession. They said that the respect once accorded teachers by the general public has deteriorated. The loss of respect and status is manifested in many ways. For example, they alleged that teachers were once held in high esteem by the general public and everywhere it was "Mwalimu" (a Swahili word for teacher). These teachers indicated that many factors seem to have contributed to their perceived low status. For example, in earlier times teachers used to have authority and commanded respect from students. They also had the power to discipline students. Students knew that teachers had this disciplining authority and abided by it. In addition, the general public, particularly parents, supported teachers in disciplining students.

Today this does not seem to be the case. Teachers do not seem to enjoy the authority and the respect from the public. Grace a current teacher, felt that teachers are no longer respected by the public.

> CNW: How does the general public view you as a teacher?
>
> GRACE: I think we have lost what used to be called in those days: "teaching: a noble profession." The respect that was there for the teacher no longer exists. You discipline a student at school, parents come to school and humiliate you. So the respect for the teacher is completely eroded.

Macharia, another current teacher, had similar views.

> MACHARIA: The public view of a teacher is very negative. This has been expressed by some politicians. I think they expect too much from teachers. All of them are complaining and sometimes you wonder who supports teachers.

Mayende, a former teacher, expressed similar sentiments.

MAYENDE: In public examinations not every student can pass. When there is a failure of some sort there is a tendency for politicians to attribute such failure to the teachers and blame them. The fact is that there are many factors which contribute to failing in schools. So the public tends to think that teachers fail to pass knowledge to the pupils to enable them pass examinations. This has been very damaging to the teachers' status.

The responses indicate that education is a very sensitive area and national examinations results have become a politically contentious issue. Politicians, among others, have taken examination results as a justification to condemn teachers for inefficiency without investigating other possible causes of poor examination results.

Another factor contributing to the perceived low status of the teacher is increased literacy in society and the emergence of new professions. During the colonial period literacy among Kenyans was limited and teaching was almost the only profession for the educated. Consequently, teachers were respected because they had a monopoly of knowledge and skills. However, after independence education was open to many people and many job opportunities became available to those who were educated. As a result both the current and the former teachers felt that as literacy increased among people the superior knowledge and skills of teachers lost their value. Masika, a current teacher, said:

CNW: There was a time when teachers were held in high esteem. What has contributed to the loss of respect for the teacher?

MASIKA: In the early days say before 1975 the well educated people especially in rural areas were teachers. They were looked at as people who would guide and counsel others in the community. And they were consulted for advice and knowledge. But these days it is not like that any more.

This was supported by the views of Mayende, a former teacher.

MAYENDE: In those days the pioneers in education were teachers. They knew how to read and write, owned and rode bicycles, owned radios, and many other material things which were uncommon to other members of the community who were illiterate. Now the general public is about 40% literate and of late the status of the teacher is also shared with other professions. There is a large pool of professions besides teaching, although teachers might be the majority in the civil service. This has led to competition in which teaching does not seem to feature well.

Mutisya, another former teacher, confirms the comparisons and competition that the public tends to show.

CNW: Are you suggesting that people in other professions are more respected?

MUTISYA: Yes, the public tends to accord more respect to people in other professions. I think, they [public] look at people working in offices in towns to be more superior to teachers. Teachers are always associated with baby care and people who are always with chalk.

These teachers felt that the high social status they once enjoyed in the community was due to the fact that they had "modern," superior knowledge compared to the general level of illiteracy in the community. Consequently, as Bacchus (1980) points out, the "local citizenry not only respected the teachers' position, they often sought and followed their advice on important issues" (p. 124). The emergence of newer, more prestigious professions in Kenya has eroded teacher social status. Industrialization brought about many job openings for the educated (Eshiwani, 1976). These professions have taken over the lead in the public's regard. As one survey of the teaching profession in Africa states: "The decline in prestige is not absolute; it is relative. The emergence of newer groups in society has deprived teachers of the primacy they once enjoyed" (WCOPT, 1962, p. 1-2).

Oluoch, a former teacher, attributed the low status accorded teachers and the teaching profession by the public to the lack of commitment on the part of those who take up teaching as a career.

CNW: Why do you think the teacher has lost favour in society?

OLUOCH: One of the factors is, of course, that before, people chose the teaching profession because they admired it as it was almost the only profession available. Now there are many professions to choose from. People who end up being trained as teachers are not those who originally had wanted to be teachers. They are people who had wanted to join one profession or the other but failed. They resort to teaching simply because they want a job. And this is something that has made the teaching profession to be what it is now, as opposed to what it used to be. The other factor is that teachers get low salaries compared to equally qualified people in other professions. So comparisons with people of the same qualifications earning more makes the public look down upon teachers.

With many job opportunities in the labour market people choose other jobs first, and only reluctantly turn to teaching when they fail to get them. These people use teaching as a stepping stone to other employment. On the other hand Ali, another former teacher, attributed the low status accorded to the teaching profession to the high percentage of untrained teachers in the teaching force.

ALI: While there are qualified teachers who have undergone training, school leavers can teach as untrained teachers. Also people who failed to get jobs of their choice after university go for teaching. So teaching is more or less a repository of people who had other objectives. Consequently, the respect accorded to the teacher is rather low.

Ndirangu, another former teacher, expressed similar views.

NDIRANGU: The society has contributed a lot to the low image accorded teachers. They decide who becomes a teacher and who does not. You find there are a lot of untrained and unqualified teachers in our education system. Almost anybody is put in the classroom to teach. So people start looking at teachers as a group and think that everybody is a failure even when you are a graduate teacher.

Wasike, a former teacher, stated that low public image is a contributing factor to the teacher's decision to leave the profession.

CNW: Did the low public image toward you as a teacher contribute to your decision to leave the profession?

WASIKE: Yes. You become demoralized and feel they [public] are not appreciating you. While others [non-teachers] are appreciated. Therefore you feel you want to be at par with the others and the only way to be at par is to leave the teaching profession and take up a non-teaching job whenever possible.

Ali, another former teacher, noted:

ALI: After all that education you would also like to have some standing and respect in society. I did not see teaching providing the self-esteem I would have liked to have in society.

According to these teachers, the government policy of employing untrained and unqualified staff in the education system has diluted and undermined the prestige of the profession. Consequently, graduate teachers are not given due respect by the public. The low public image is thus a source of dissatisfaction and a contributing factor to the decision to leave the profession.

From the responses it can be seen that a number of factors have contributed to the low status accorded the teaching profession and teachers. Some of these factors include: (a) low entry requirements into the teaching profession, (b) high percentage of untrained and unqualified teachers in the education system, (c) spread of literacy, (d) public condemnation of teachers by

politicians over such matters as poor performance in national examinations, (e) low monetary rewards and a lack of material possessions.

We need to look more closely at the financial and other rewards that teachers expect and get in teaching in more detail given the importance these teachers attach to such rewards.

Financial Rewards and Benefits

George, a current teacher, felt that the teacher salaries are not only low, but they are not comparable to salaries paid to people in other careers.

CNW: What could contribute to a teacher's decision to look for other jobs outside teaching?

GEQRGE: Actually, the salary in teaching is low and a person may feel that he is wasting his time in teaching because he is being underpaid. You know when you look at your friends who earn more than you, you feel it is not worth it. You get an annual increment and continue getting these yearly increments which actually make very little difference to your salary. So when an opportunity arises elsewhere you decide to leave the teaching profession.

However, Rose, another current teacher, pointed out that science teachers are paid more than their arts counterparts, although she added that the difference is not commensurate to the amount of work in science teaching.

ROSE: The remuneration is low. What I mean is the work is so much, yet what you get is so little. Actually, the main problem is money.

CNW: The salary scales for teachers show that science teachers earn a little more than arts teachers. Doesn't that compensate for the extra work you do in science?

ROSE: The difference is quite small.

The salary differential between science and arts teachers has been one of the ways the government appreciates the extra work science teachers do in the laboratory. However, the incomparability between teacher salaries and those paid to people with the same qualifications in other professions is a source of dissatisfaction and a contributing factor to the decision to leave the profession. Mark, a former teacher, said:

CNW: What prompted you to leave the profession?

MARK: [Laughter]. This is really the nitty gritty of the situation. The main problem was the salary was low compared to that paid to people with my qualifications in other professions. It is really discouraging to see your friends earning more than you yet you have the same degree.

CNW: Do you mean your salary now is much more than the salary you were getting as a teacher?

MARK: I do not know whether I should talk about my salary now, but I must admit that my salary is much more than what I was getting as a teacher. In addition I am also assured of accommodation which is crucial in this city.

Mutisya, another former teacher, expressed similar views and added that the annual increments did not make much difference.

MUTISYA: You know the salaries given by the Teachers Service Commission were not encouraging. You enter the profession at a certain salary scale of say job group H. You stay on that scale only getting yearly increments. These increments make very little difference on the salary. There was actually nothing which shows that a teacher after so many years can become this and you earn this.

CNW: Each salary scale has a maximum. What happens?

MUTISYA: Well, you continue with yearly increments until you reach maximum salary. Then you continue on the maximum until maybe if you are lucky to get a

promotion, you can move to a different salary scale. It is demoralizing because this is the time you are an expert in the subject yet you are stagnated.

The progression from one salary scale to the next highest salary scale is achieved by promotion. Unfortunately, as it will be shown, promotions in teaching are rare.

Apart from low salary in teaching, the fringe benefits are also limited and unequally distributed between male and female teachers. Grace, a current teacher, said:

GRACE: Besides, you find apart from having low pay, the fringe benefits are rare to some of us.

CNW: What do you mean?

GRACE: Well, house allowance is given only to male teachers. Married female teachers do not get house allowance. If you do not get a house in the school too bad for you. As concerns medical allowance, we [teachers] used to get medical allowance for out-patient treatment in government hospitals but this has since been discontinued. So if you get sick you have to use your little salary to get treatment.

In the Kenyan context married women employed by the government are not entitled to house allowance, if their husbands draw house allowance from the government. Although the male teachers receive a house allowance they stated that the allowance is not sufficient. Mayende, a former teacher, said:

MAYENDE: Yes, you get house allowance. But the allowance was below the commercial rents. So you could not get a decent house to live in. Also the idea of the Teachers Service Commission requiring receipts which you have used to pay the landlord before you get refunds, the refunds which take three or four months to come was very frustrating.

However, if the school has staff houses both male and female teachers can be allocated a house irrespective of marital status.

In contrast, the provision of accommodation by Kenya Posts and Telecommunication Corporation saves the employees the trouble of looking for houses by themselves. The houses provided are well furnished. In addition to accommodation KP&TC also has incentives that attract people to it. Joyce, a former teacher, was attracted to KP&TC by such incentives.

> JOYCE: There are also incentives like soft loans which you can use to buy furniture, a car, a house or clothing and repay at one's convenience. Such things are unheard of in teaching. Also you get a well furnished house paid for by the company which is very good. In teaching you can only get a house in the school if the school has staff houses.

It should be noted that teachers are not the lowest paid workers in Kenya. However, the perception that they are being paid lower than people in other professions who have the same qualifications is a major source of frustration and dissatisfaction among science teachers. Low salary is cited as having contributed to the decision of former teachers to leave the profession. Salaries seem to interact in a complex and subtle way with status accorded them. In general these teachers are concerned about low salary and the benefits accompanying it.

The foregoing section shows that teachers salaries are viewed as low compared to those of other professions partly due to lack of promotional prospects. In the next section we discus the career structure of the teaching profession.

The Career Structure: Promotion Opportunities

This section describes how the participants viewed the promotional prospects available to teachers within the educational sector. Promotional chances are related to the structure of salaries. People in other professions seem to earn more than teachers because they quickly move up the career ladder. Teachers are not assured of such quick promotions.

Masika, a current teacher, felt that it is almost impossible for him to get a promotion in the teaching profession. He attributed the lack of promotion to the large numbers of teachers and their similar qualifications.

CNW: How often do you get promoted?

MASIKA: If you look at the advancement opportunities in teaching, you have very little chances of succeeding. Upward mobility is almost nil. What I mean is as a teacher one more or less stays in the same grade throughout his time as a teacher. You see most of us have the same qualifications. It means if a chance arises for promotion each one of us is qualified. So there is a tendency for friction and competition. You feel you cannot succeed.

Kim, another current teacher, attributed lack of promotion to the limited avenues of promotion.

KIM: There are very few chances of promotion in teaching. For example, you can become a deputy or a headteacher. But there are thousands of us. How many of us can get those chances? Very few! In fact once you are a teacher of a certain grade in school you remain a teacher of that grade.

Mayende, a former teacher, expressed similar sentiments and added that he decided to leave the profession due to a lack of opportunity for promotion.

MAYENDE: I could see that chances of promotion in teaching were limited. For example, I would see myself teaching for 10 to 20 years but still be a teacher at the same grade. In a profession it is good that you get a promotion or acquire a title of some sort.

CNW: Are you suggesting that you saw chances of promotion in KP&TC before you joined?

MAYENDE: Yes, in fact this was part of the contract. You are promised promotions every after three or four years. And this has been the case anyway.

Ali, another former teacher, attributed the lack of promotion to the large number of serving teachers.

ALI: Teaching did not provide an avenue for promotion. I knew the only way you could be promoted was to become a deputy headteacher or a headteacher. But considering that in a school there are about 30 teachers, all of whom have the same qualifications, to move to the next grade is almost impossible. These 30 teachers will be competing for the same post. And even when you get that post you are not any different.

CNW: How is promotion related to the self-esteem?

ALI: Oh, they are very much related. You see like here in KP&TC, my upward mobility depends on my output. When I get a promotion it gives me a high self-esteem and the society respects me. The higher I go up the ladder the more I shine in society, and the more I am able to use my capacity. Teaching does not provide this.

In his view, prospects of promotion play a vital role in determining the job satisfaction and contentment in the profession. These in turn determine the status the person is accorded by society. It seems that the failure to get a promotion or the processes leading to one getting the promotion is discouraging and frustrating. Apart from the few chances of promotion, George, a current teacher, suggested that these promotions are not automatic.

GEORGE: I think, there are many loopholes. There are no clearly set ways of identifying teachers who should be promoted. For example, you might be doing a good job. All your students do well in national examinations but you find a teacher whose subject students did not do well, or the one students are complaining about, has been promoted.

CNW: How is that possible?

GEORGE: You know we may all apply for a promotion. We are called for an interview. The interviewing panel might only consider the way you present yourself at the interview. Not all of us are good at interviews. So depending on how the other teacher presents himself he gets the promotion [and] you don't.

However, Macharia, a current teacher, felt that the success of the process largely depended on the prevailing relationship between the teacher and the school administration.

MACHARIA: Yes, you can be promoted, but that will depend on the relationship between you and the administration of the school. The administration sends a final report to the employer that you are a good teacher and you deserve to be promoted. If the administration feels that you are only a good classroom teacher then you remain there.

CNW: Is there no other way the employer can get to know about good teachers and promote them?

MACHARIA: The employer will never know because a teacher cannot take the results or even show his good work in the school to the employer. The final word has to come from the school administration who are the employer's field managers.

The promotion procedure requires that the school administration give a confidential report about the teacher to the employer. According to Macharia there might be a possibility of favoritism involved. This causes doubts and promotes friction between the administration and the teachers when the teachers do not seem to get the promotions they expect.

However, although Wasike had been promoted, he still left the profession.

WASIKE: I had been promoted to a headmaster within a very short time which was good. But the problem was that remuneration was very low. Actually promotion to administration brings very little change in monetary rewards, there is very little increase in salary and status.

It can be seen that limited promotional prospects are not the only potential contributing factor to dissatisfaction and the eventual decision to leave the profession. As indicated by Wasike, science teachers seemed more concerned with social and economic status. Although in the career structure there are several promotional avenues for teachers, these teachers seemed unaware of their existence. These teachers believed that schoolteaching has a low occupational status because it does not offer them opportunities to attain posts of responsibility and commensurate remuneration. This is a major concern for these teachers, considering the important connection between promotion and salary.

Career prospects are not the only issues these teachers were concerned about. Also central to their views of teaching are the conditions under which they work.

Working Conditions

In this section the views the teachers have about their experiences of science teaching are considered. All these teachers felt that science teaching is interesting and that they derived satisfaction from imparting scientific knowledge to students. However, they stated that in order to be effective in their work they need science teaching materials to help them structure the course and convey scientific knowledge to the students. Science teachers said that they are constrained by lack of textbooks and laboratory facilities. In addition, science teachers have heavy teaching loads. These factors are considered in turn.

Textbooks

Kim, a current teacher, complained that science textbooks were inadequate.

CNW: Do you have enough textbooks?

KIM: In fact that is a problem we face here. We do not have enough textbooks for each student. During the lesson most students had not done their previous work and the excuse was that they did not have the textbook.

CNW: Who is supposed to provide textbooks for students?

KIM: Well, initially schools used to buy books for students, but these days parents are supposed to buy. Life is expensive and particularly textbooks have become very expensive and so most parents really cannot afford.

George, another current teacher said:

GEORGE: Students have to share a textbook and whenever I give homework they are not adequately done because students do not stay together. This creates a problem in that as a teacher I cannot revise the work with some students when others have not done it. This really drags me behind. Since students have to sit for national examinations based on the stipulated curriculum, it is good that everything in the curriculum is covered. If the work is not covered effectively students are disadvantaged. They will not do well in these examinations and the teacher will be blamed for the failure.

Science textbooks are recommended and approved by the Ministry of Education. Although other textbooks can be used the science curriculum in particular is based on the recommended textbooks. This means that students should have the recommended textbooks. In the old system of education the government provided grants to schools to buy the necessary facilities, including textbooks. This policy was abolished in 1986 and replaced with a cost-sharing policy which, among other things, recommended that parents take up some of the financial and administrative burdens borne by the government in providing training at various levels ("Which way," 1988). However, the implementation of this policy, as these teachers pointed out, has put pressure on parents because most of them cannot afford to provide textbooks for their children. This is putting pressure on teachers as well.

Even before the implementation of the cost-sharing policy textbooks were inadequate. Wasike, a former teacher, said:

> WASIKE: Textbooks were in short supply. For example, there would be one textbook shared between two or three students for reference. Alternatively, there would be only one textbook for the teacher. In such cases a teacher would be forced to summarize the topics and make notes for students. This reduces the speed and effectiveness of teaching. Yet the set syllabus should be covered in a given time.

Since the education system is examination oriented these teachers are supposed to follow a rigid curriculum. Thus they are concerned about effectively covering the syllabus to prepare students for examinations.

Laboratory Facilities

Laboratory work is an essential constituent of the Kenyan science curriculum. The curriculum requires that students sit for a practical examination in each of the science subjects. Science teachers are expected thoroughly to prepare students to handle laboratory equipment in preparation for the examinations. However, the participants stated that lack of certain essential science teaching materials constraints their effective teaching and proves frustrating.

> JOHN: The lack of laboratory facilities makes the teaching very difficulty indeed. The science curriculum requires that both theory and practicals [laboratory work] are taught. However, due to lack of equipment, it is not possible to carry out experiments so I have to rely mostly on theory.

Macharia, a current teacher, confirmed this comment and added that the large number of students made his teaching less effective.

> MACHARIA: You may want students to carry out practicals individually. It is not easy to get apparatus for 40 students. Even if the apparatus were there the space in the lab is not enough. Students then have to work in groups. But the problem when

students work in groups [is that] some students never take part in the practical. They watch others do [it]. Therefore they will never get to know how to handle apparatus, carry out experiments, make observations, and worse still they will never know how to make deductions from experiments.

CNW: How does that affect you as a teacher?

MACHARIA: This is frustrating to the teacher because at the end of it all these students are supposed to sit for a practical examination, where they have to handle apparatus individually yet they have not been doing that. What is most frustrating is when such students perform poorly on these examinations the teacher is blamed for not having taught.

The secondary school science curriculum requires that students develop experimental practical skills by performing experiments in the school laboratories. Consequently, science teachers are expected to teach students the ability to handle laboratory equipment, to observe accurately, to record observations accurately, to measure, to predict, and to think accurately and interpret observations, all of which are based on laboratory work. However, due to the large number of students and the inadequate laboratory facilities, these teachers felt that the practical skills are not effectively and adequately taught. Omondi, a current teacher, presented similar views.

OMONDI: There is a shortage of funds for maintaining laboratories and their demands like buying consumables. This makes the teaching very difficult because there are certain essentials which must be there for practicals to be done. But if the essentials are not found then teaching becomes almost impossible. As a teacher I can improvise some equipment, but again not everything can be improvised, especially those things that are factory made and standardized.

The former teachers also had similar difficulties. Mark, a former teacher, said:

MARK: Getting science teaching materials in secondary schools is one problem that has existed for a long time. This meant most experiments were done by demonstrations or students had to work in groups. Relying on demonstrations or working in groups had their own problems. The science curriculum requires that students sit for a practical examination where they handle the apparatus individually. Now when experiments are demonstrated students are only observers and when students work in groups some students just watch others do the experiment. Such students will never get to know how to handle the equipment on their own.

Mayende, another former teacher, expressed similar concerns and added that:

MAYENDE: Consumables were always in short supply. There were no adequate funds available for maintaining science laboratory requirements like the constant supply of consumables.

It can be seen from these responses that the teachers were concerned about the lack of science teaching materials which constraints their effective teaching, the welfare of their students and the sensitivity about the quality of the national examination results. But above all they were concerned about being blamed for poor student performance in national examinations.

The responses of both the former and the current teachers indicate clearly that they were constrained in the effective teaching of sciences. The lack of the essential teaching materials coupled with the large number of students make their job of teaching difficult. Since laboratory work is an important component of the science curriculum these teachers are particularly concerned about the effective preparation of students in the laboratory practical skills required of them in the final national examinations and the quality of the practical examination results. Furthermore, since education is a very sensitive area and examination results are very important, these teachers are more concerned about being blamed when students do not perform well in national examinations. Overall, these teachers are concerned about: (a) Inadequate science

teaching materials, (b) funds for maintaining science laboratories and their requirements, and (c) the number of students taking sciences.

Teaching Load

Both the current and the former science teachers complained about the heavy teaching loads they have to carry.

CNW: How does the mobility of science teachers affect you?

GRACE: When science teachers leave the school, in most cases there is nobody coming to replace them. So their [those teachers who have left] teaching load is distributed among the few available science teachers that are in the school. This then means extra teaching load, extra preparation, extra marking, extra pressure, extra everything.

CNW: How does the teaching load affect you?

GRACE: As a science teacher I feel a higher teaching load affects my teaching. I would like to set my experiments, try them out before students can do them. But with the current teaching load I have no time to try experiments out. When it comes to marking the practicals I would like when students finish doing a practical, collect their books and mark them, but I cannot afford because from this class I am going to another class and by evening I am exhausted.

These views were supported by the former teachers as illustrated by Wasike.

WASIKE: The shortage of science teachers meant that you take on a bigger teaching load. Normally a teacher is supposed to take 21 lessons per week, but with the shortage of teachers sometimes you would take double the normal teaching load. So that meant extra work, extra marking, extra preparation during evenings, and short hours of sleep.

These teachers were concerned about the teaching loads which they felt constrains their teaching and leads to a decline in effectiveness.

Although salary, public image, promotion opportunities, and working conditions are sources of dissatisfaction which prompt some science teachers to leave the profession, it is also clear that many do stay. The factors that encourage some science teachers to stay in the profession are what we now turn.

Continuance in the Profession

Teachers interviewed in this study stated that they derive satisfaction in their teaching job and from association with students. Omondi, a current teacher, said:

> CNW: Given the negative experiences in teaching, what could make one stay in the profession?
>
> OMONDI: It depends on whether one gets satisfaction in the job or not. I do get satisfaction in teaching despite the fact that salary is low. It is quite satisfying to me to impart knowledge to students. I find it very interesting. Also when students do well on examinations, it gives me extra satisfaction and this keeps me in the profession.

Grace, another current teacher, expressed similar sentiments.

> GRACE: Teaching is very interesting especially when I look at people whom I have taught and helped to be what they are in school and society. I feel very comfortable and satisfied. Also teaching as a profession prepares me for many things not only as a teacher in the classroom but as a teacher in the community. I stand a chance of teaching and advising other people. So teaching is actually good and this makes me continue teaching.

Former teachers expressed similar views as illustrated by Mutisya.

MUTISYA: The job is very interesting and exciting. You deal with students and it is greatly satisfying to see that you teach, guide and counsel them and change their behaviour.

In addition a teacher needs to have a strong service ethic and dedication to helping others. Kim, a current teacher, said:

KIM: You need to have a feeling that teaching is a challenge and that you want to help others. Such that what you do is to the good of students. This way you feel inspired to continue teaching.

It can be seen that these teachers are emotionally tied to the welfare of students such that the intrinsic rewards they receive from their students is important to their work. To them teaching is worthwhile as they watch students grow, learn and develop and have a positive impact on them and society in general.

Apart from dedication to the profession, there is the added advantage of the flexibility offered by the profession. Rose, a current teacher, said:

ROSE: In teaching we have school holidays which are not available in other professions. During school holidays one is able to do his or her own work. For example, as a mother I have found that I am able to take care of my family the way I would like to during school holidays. Also time for finishing the day's work is good in that I leave school earl enough to proceed on my own businesses. Actually this aspect of the profession keeps me on.

Masika, another current teacher, expressed similar views.

MASIKA: Teaching is good in that if you have a piece of land to develop or a small business to run, there is plenty of free time during school holidays and after school. This can enable one to earn an extra income to subsidize the teaching salary. Actually I have been able to stay in teaching because of this.

Joyce, a former teacher, expressed similar views.

JOYCE: There is this advantage in teaching that one has three months of school holidays in a calendar year. This gives a lot of flexibility and free time for accomplishing personal work. This aspect could make somebody stay in teaching.

Wasike, another former teacher, said:

WASIKE: Teachers who have farms to develop or small businesses to run can stay in teaching because they are able to do their own work and earn an extra income. Otherwise I find it difficult for someone to stick in teaching.

It is evident from these responses that apart from the teaching job these teachers are engaged in other jobs. Therefore they see the possibility of staying in teaching because teaching permits them to do things outside the classroom and the school that are important to them. While some teachers stay in teaching because of the positive aspects of the profession, others are forced to stay in the profession. John, a current teacher, stated that:

JOHN: Actually certain conditions can force one to stick in teaching. For example, lack of alternatives. You may try to get another job without success, so you stick in teaching. But if I could get an alternative, I do not see myself sticking in the profession.

George, another current teacher, agreed and added that:

GEORGE: To say the truth I have never thought of retiring as a teacher. I am seriously looking for another job that will give me freedom and more money. Once I get one, I will definitely resign and go.

Former teachers expressed similar views as illustrated by Ali.

ALI: I really cannot see how one can stick in teaching. However, a teacher is likely to be held in teaching for a long time because of lack of alternatives. I personally have never thought of going back to teaching because I know I will not be satisfied.

The responses of these teachers indicate that it is becoming difficult for teachers to find alternative employment. However, the moment an alternative job shows up, most of them are delighted to leave the teaching profession.

Summary

Although there are satisfactions in teaching, we can see that teaching was not a career desired by the teachers who participated in this study. On the whole, the teaching profession has to compete for qualified science candidates with other professions such as engineering, medicine, veterinary science, agriculture, and pharmacy. These other professions appear more attractive given the prestige attached to them. They are seen as more desirable. However, as we saw above, most of these teachers turned to the teaching profession after failing to get the professions of their choice. As Kinyanjui (1974) noted "school leavers who fail to get jobs of their choice select teaching in preference to remaining unemployed, and continue to look for employment opportunities outside the teaching profession" (p. 60).

While in the profession the respondents stated that they experienced low status and prestige, low salary, limited promotional prospects, and poor working conditions. All the respondents indicate that their salaries are low compared to salaries paid to people in other professions requiring similar qualifications. ILO UNESCO (1983) found that in developing countries including Kenya, "teachers' salaries are lower than those paid to similarly qualified persons in private sector" (pp. 25-32). All these factors contributed to the former teachers' decision to leave the profession. Since the current teachers are also dissatisfied with the same kind of factors there is a likelihood that they will leave the profession. Therefore, as much as these teachers are attracted to other professions, they are also driven away by the conditions met with in teaching.

In the next chapter we consider the significance of what these teachers have told us, against the background of the changing Kenyan society. We consider the cultural and historical contexts of these perceptions of teaching as a career in Kenya today.

CHAPTER 6

AN ANALYSIS OF TEACHER EXPECTATIONS IN THE CONTEXT OF KENYAN SOCIETY

Introduction

In the last chapter the data indicated that job dissatisfaction among science teachers in Kenyan Secondary Schools can be attributed to cultural, social, economic and professional factors, among other things. The teaching profession suffers from lagging behind other professions in all career aspects. These teachers have pointed to the dynamism of other, newer professions in Kenya and have used these as a reference in describing their experiences of teaching. What the teachers have told us shows that their expectations and aspirations are not being met in the teaching profession. Their responses reveal the forces that serve as obstacles and increase the conflict between their expectations and aspirations on one hand and the realities of the teaching profession on the other hand. How can this study illuminate this tension?

First we see cultural values and beliefs differently affect male and female teachers in their career choice, even though, in the end, both are equally affected by changes in Kenyan society. Secondly, we look at the tension between the way the teaching profession is organized and administered and the expectation that these teachers as a whole have for it.

Diverging Career Expectations

Female Teacher Career Expectations

The traditional practice in which girls were socialized to view their sex roles in society as very important continues to influence the attitudes of female teachers towards their future careers. This is evident in the views of the female teachers who participated in this study. These female teachers were less ambitious in terms of career considerations compared to their male colleagues. They tended to consider future careers in terms of the traditional cultural values and beliefs regarding their future responsibilities as wives and mothers. Consequently, they viewed the teaching profession as a more viable career for them because of the flexibility that teaching would provide to enable them to carry out their dual responsibilities as mothers and wage employees. Dove (1986) observed that in developing countries "women are not accustomed to high career expectations and aspirations; women place their main priority on their domestic responsibilities" (p. 156). Kinyanjui (1978) noted, "Girls' educational and occupational aspirations tend to be shaped by the educational system to conform to the existing definition of the role of women in society" (p.32).

The female teachers interviewed in this study had these kind of career aspiration. The reasons are easy to find. Traditionally, marriage and family responsibilities are obligatory for women. The teaching profession is a traditionally accepted career for women because it allows them to be in a relatively modern sector wage employment while managing a household and family (Dove, 1982). Teaching because of its status, security and short hours, is viewed as an appropriate occupation for educated women for many developed and developing countries (Rust & Dalin, 1990). Long holidays afford additional opportunities for combining work in school with child-bearing and care at home.

In Kenya women are not looked at as bread-winners of the family although they run the home and the garden (Beneria, 1982). In Kenya traditional subordination in marriage still persists (Stitcher, 1988). Female teachers are not encouraged to be ambitious because society in general does not recognize the woman as the main income earner. Thus, after marriage her income is regarded merely as a minor contribution to the household earnings. This is the way traditionally gendered division of labour operates in Kenya.

As matters stand now the women teachers I talked to see advantages in working as teachers. Therefore they may be less inclined than men to leave teaching. However, the values of the Kenyan society and its individuals are changing rapidly. If the expectations of women approach more closely those of men, then even greater mobility might be expected. The problem could get worse as the role of women in Kenyan society changes.

Male Teacher Career Expectations

According to the data presented in the last chapter, 6 out of the 12 male teachers interviewed joined teaching by default rather than by design. Three of the remaining 6 were not aware of the career options open to them. Although the other three stated that they had an interest in teaching, it was because teaching could meet their needs for job security and marketability. These male teachers did not see teaching as fulfilling their career needs.

These male teachers had high expectations and aspirations for their future careers. The reasons for their high expectations are easy to find. The traditional division of labour referred to earlier recognizes males as bread-winners for the family. Given their future responsibilities in the family, the male teachers consider careers in terms of the conventional economic and social forces such as the cost of living, salary, status and prestige, and professional advancement. They aspired to careers that would enable them to own a nice car and a decent house, obtain a good education for their children and a high standard of living for their families. The teachers expected to have careers that would give opportunities for advancement.

However, as discussed in chapter 2, teaching offers lower monetary rewards and prestige compared to other professions. It is therefore not surprising that these male teachers would see that the teaching profession was not a career that could enable them to satisfy their expectations and aspirations which at the outset did not lead them to teaching. Eleven of the twelve male teachers originally chose careers like engineering which provide better monetary rewards and high prestige and status. Hoyle (1969) notes that "teaching has a relatively high status in the occupations usually followed by women, but a relatively lower status amongst occupations normally followed by men" (p. 87). The attraction of men to the profession is thus adversely affected by the low monetary rewards and the low status.

Despite the fact that teaching was initially unattractive most of the male teachers eventually did join, although reluctantly. After their schooling many of them were not left with many options except joining the profession. This finding is similar to that of Oyuke (1990) who noted that many graduates in Kenya were in the teaching profession by default and not by design. He added that many of them joined the faculty of education at the university after failing to qualify for entry into the professional faculties and so have little interest in the profession. Kinyanjui (1974) observed that "school leavers, finding it difficult to get the jobs of their choice immediately after leaving school, select teaching in preference to remaining unemployed, and continue to look for employment opportunities outside the teaching profession" (p. 60). Additionally, D'Oyley and Murray (1979) found that in Jamaica and Ghana a large proportion of teachers were in the teaching profession because they did not have alternative jobs, or they were using teaching as a stepping stone to other ambitions. Given this reluctance it is important to examine the occupational factors that make the teaching profession unattractive. Such an analysis may lead to a better understanding of these issues than we have had heretofore.

The Changing Occupational Status of Teachers

The discussion of occupational status is presented under the following headings: economic factors, house allowance, opportunities for advancement, the changing status of teachers and the teaching profession, and conditions of work. Although the issues outlined are discussed separately, it is important to bear in mind that these issues are interrelated in their effects on teachers and the teaching profession in Kenya.

Economic Factors

The literature on job satisfaction and work attitudes clearly shows that money is an undisputed source of motivation to work. People invest themselves in work in order to obtain desired returns and rewards (Sergiovann & Elliot, 1975). However, the analysis of data in this study indicates that the teachers interviewed did not receive desired monetary returns. All 16 teachers complained about low salary. They stated that their salaries and other monetary benefits are low compared to those paid to people in other professions who have similar or equivalent qualifications. To illustrate this point, in 1971 the comparative salary scales for graduate teachers and civil servants with comparable qualifications showed that the average salary of graduate teachers is KSh. 1510.15 (US $211.42) per month, while that of other professionals is KSh. 1879.80 (US $ 263.17) per month (Hanson & Crozier, 1974).

The Government has made several attempts to raise the salaries of graduate teachers. Following the recommendation by the 1985 Ramtu Commission to raise the salaries of all civil servants and the implementation of the Graduate Teachers' Scheme of Service by the Teachers Service Commission in 1988, graduate teacher salaries have increased tremendously. For example, in 1988 the starting salary of a graduate teacher rose from KSh. 2,880 (US $144.00) to KSh. 3,890 (US $194.50) per month (Teachers Service Commission, 1988).

However, although the graduate teachers' salaries have improved steadily in recent years, they have not kept pace with salaries of other professions. Teachers salaries by and large have tended to be lower than the salaries paid in the public service for occupations requiring comparable qualifications, just like they were twenty years ago. To illustrate this, a graduate teacher now starts at KSh. 3,890 (US $194.50) a month while other professionals start at KSh. 4,700 (US $235.00) a month in the civil service ("Chalk and talk," 1990). As we have seen, graduate teachers are dissatisfied with this salary differential and they bitterly complained.

Although the survey done by ILO UNESCO (1983) in developing countries revealed that Kenya was among the countries in which teachers were better paid than public servants with comparable qualifications, Kenyan data and this study suggest that the opposite is true. In addition, when graduate teachers compare their salaries with the salaries paid to those in the private sector and the parastatals like KP&TC they find that their salaries are much lower.

This is consistent with the conclusion arrived at by ILO UNESCO (1983) that in developing countries, including Kenya, teacher salaries are lower than those paid to similarly qualified persons in the private sector. In a study that looked at the education practices in Africa, Datta (1984) stated that "by and large the salaries of graduate teachers are lower than those of persons with comparable education and years of service in government, parastatals or private sector" (p. 127).

The data in this study show that low salary is a source of dissatisfaction and frustration for science teachers in Kenya. All the teachers, especially the former teachers, were discontented with teaching salaries. They said that the comparatively low salaries contributes to the low social public esteem in which the profession is held. All the former teachers stated that they quit the profession due to low salaries. These teachers argued that because their skills could be used in parastatals like KP&TC they decided to leave the teaching profession to seek higher salaries. Many graduate teachers are recruited by private firms as management trainees. The firms want

them because they have scientific skills and knowledge of subjects like psychology which are important in management.

As early as (1967) an eminent Nigerian commentator Babs Fafunwa observed that the:

> African teacher, like his counterparts in most parts of the world, is one of the most poorly paid of all professional workers. In many parts of Africa, the labouring class enjoys greater security than the teacher. Yet the services of the teacher are indispensable to a nation, for they...influence in no small measure the lives of the nation's youth and the nation's future. (p. 84)

OECD (1971) stated that the "teaching profession has lost prestige because many people consider that the teacher's job is routine" (p. 314). Factors contributing to loss of status and the prestige in this study are consistent with the findings of research carried out in developing countries which show that low salaries, poor conditions of service, and dilution of the profession with low-caliber staff affect morale (OECD, 1974). The ILO UNESCO (1983) survey has shown that the cost of living has risen faster than teachers salaries and Rust and Dalin (1990) found that "teachers in developing countries are poorly paid" (p. 153).

House Allowance

According to the Teachers Service Commission policy married female teachers whose husbands draw a house allowance from the government are not entitled to a house allowance. However, married female teachers who are the sole supporters of their families, legally separated or divorced are entitled to a house allowance (Teachers Service Commission, 1986). The responses of the female teachers interviewed in this study confirm that the house allowance is given to male teachers but not married female teachers.

Yet when the school has staff houses these are allocated to teachers irrespective of sex and marital status. Only one of the current female teachers was housed by the school. The other two were living with their husbands either in their privately rented houses or in houses leased by the

husband's employer. The female teachers felt that the discrimination in the allocation of the house allowance was a source of discouragement to them. The only former female teacher who participated in this study stated that she was attracted to her new employment because the employer offered accommodation in addition to the attractive salary (Interview, June 4, 1990). It should be noted that discrimination in the allocation of house allowance is not only a problem for female teachers, but a problem for women in virtually all work settings in the public sector (Hughes, 1986). These inequalities have been addressed by the Government of Kenya (1980; 1985).

Although male teachers are entitled to a house allowance, they said that the allowance was not only inadequate but not automatic. To illustrate this point, a beginning graduate teacher is entitled to KSh. 1,370 (US $59.57) house allowance per month. Yet a two-bedroom house in Nairobi's Umoja estate, which is meant for the low income people, rents for KSh. 3,000 (US $130.43) per month. When compared to other civil servants or even with people in the private sector and the parastatals, the teacher house allowance is much lower.

Not surprisingly the teachers pointed out that they could not afford to live in decent houses. As well, they were not happy with the procedures followed by the Teachers Service Commission and with the time taken before the refunds are made. One of the former teachers stated that the process is tedious and that the refunds can take up to three months to arrive. He described this as a frustrating and disappointing process which contributed to his decision to quit the profession (Interview, May 30, 1990).

Opportunities for Advancement

Opportunity for promotion is an important element in making a profession desirable. According to the interviews all eight current teachers had not received promotion. Of the eight former teachers only one had been promoted from a classroom teacher to a headteacher (administrator). Although opportunity does exist for teachers to move into administrative posts

(e.g. to principal, deputy principal, senior headmaster I, senior headmaster II, headmaster, deputy headmaster) the promotional opportunities here, as the data show, are few.

Opportunities for career advancement are limited by the administrative structure of schools. The teachers in this study stated, for instance, that there is only one headteacher and one deputy headteacher posts to which teachers aspire. ILO UNESCO (1983) states that "schoolteaching tends to have low occupational status because it does not offer good career opportunities whereby a majority of able and ambitious people can expect to attain posts of responsibility and commensurate remuneration" (pp. 14-15). Dove (1986) reported that at every level of the school system, "the overall number of senior posts, whether in teaching or administration, supervision or related fields tends to be small. Thus, promotion opportunities are restricted to only a few" (p. 106).

However, an examination of the promotion structure of graduate teachers reveals that there are several promotion opportunities. For example, graduate teachers can be promoted to professional teaching grades such as principle lecturer, senior lecturer, assistant lecturer I, assistant lecturer II (Teachers Service Commission, 1986). A teacher promoted to such posts normally moves away from the school system to higher institutions of learning, mostly teacher training colleges. Recently the Teachers Service Commission suggested that graduate teachers will in future be promoted to such professional posts while in the classroom. We have yet to see the implementation of this.

Teachers are also promoted on merit. This procedure is used when a teacher has performed well in the school both in the classroom and in extra-curricula activities or has rendered recognized service to the community. For example, a non-graduate teacher in Kenya may be promoted to "approved teacher" status, thus affording a salary and standing similar to graduate teachers.

However, although these promotional opportunities for teachers exist, most of the teachers interviewed in this study have not benefited from them. Indeed they suggest that the promotion

procedure can be abused. The procedure for promotion for professional posts is that the posts are advertised, and selection is then made from those applying. The teacher interested in a merit promotion has to apply to the Teachers Service Commission. In both cases the headteacher has to write an accompanying confidential report.

However, most respondents pointed out that having tried several times for promotion without success they became discouraged and gave up. They said that they had lost confidence in the fairness and justice in the procedures for promotion. One of the current teachers interviewed said that after teaching for about 20 years without getting any form of promotion she was convinced that "once a teacher of one grade always a teacher of that grade" (Interview, June 14, 1990).

The stagnation of teachers in one grade for most of their career is seen as a discouraging factor. The teachers said that there seem to be little for an ambitious teacher to look forward to in career advancement. The lack of promotion was cited as a contributing factor to the decision to leave the profession. Having failed to achieve mobility within the educational system, six of the eight former teachers moved out of their teaching posts to take up jobs in KP&TC. Dove (1986) observed that "well qualified and ambitious males are perceived as the group most easily discouraged from entering a profession which lacks fair prospects in the longer term for promotion and upward mobility" (p. 267).

To a large extent career advancement in the teaching profession in Kenya is limited to administrative positions such as the headship. In cases where such promotion is not accompanied by substantial increase in salary, the likelihood that the affected teachers will quit the headship position for better paying jobs outside teaching is high. This can be seen in the case of one of the former teachers who left the profession after promotion to headteacher. This teacher argued that his promotion did not significantly change his financial position. He could not afford the material possessions that his colleagues in other professions had little difficulty obtaining, and he was not accorded the respect other professionals receive (Interview, June 8, 1990). This is consistent with the observation made by Maguire (1970) that promotions in

teaching normally entail modest financial and prestige gains. Because the rewards in teaching were not attractive the former teacher left the profession for a job with better prospects in KP&TC.

The Changing Status of Teachers and Teaching

In order to understand why most male teachers who participated in this study did not consider teaching as an attractive career and why women were less disaffected, we have to consider the public image of the teaching profession and the teacher in Kenya. Studies have shown that the high status enjoyed by teachers before independence has markedly declined (Tiberondwa, 1976). Several factors have affected the status of the teaching profession in Kenya. In the first place, the high demand for education and the population explosion in the years following independence resulted in a serious shortage of qualified teachers. These two factors forced the government to employ untrained and unqualified teachers to staff the school system. Most of these people were those who had failed in other professions or who could not enter other professions (Igaga, 1982). Faced with a shortage of teachers the government was not in a position to be rigorously selective in the recruitment of teachers (Klitgaard, Siddqui, Arshad, Niaz & Khan, 1985).

The government practice of employing untrained and unqualified teachers tends to reinforce the public belief that anyone can teach, that teachers are "failures," and that the teaching profession is a "dumping" ground for failures. This public image of teachers has important consequences. Fafunwa (1967) observed that:

> Admission of untrained and unqualified teachers into the teaching profession, poor salary and poor public image of an erstwhile revered profession, tend to scare a way talented young men and women who might otherwise have made teaching a career. (p. 88)

All of these factors have lowered public regard for teachers. So has the changing status of the teacher in the society. As we noted in chapter 2 the secularization of teaching has meant that the teacher is now close to the people because the myth which separated them was exploded

(Tiberondwa, 1976). The stern regulations that governed teacher behaviour have relaxed with increased secularization. The teacher has become like one of the common people who can now drink alcohol outside working hours. Even if married, the teacher can have girl friends and in some cases more than one wife. Unmarried female teachers can have children and continue to work and some are promoted to the headship of schools and to other administrative posts. These changes have seriously eroded the traditional respect and trust that the public associated with the teaching profession. It is no wonder that the teachers interviewed in this study are concerned about this lower status now accorded their profession. What will replace the traditional basis for respect?

Teachers are expected to prepare students effectively to write external examinations. The capacity to do this might earn respect, for much depends on these examinations. However, teachers are concerned about their capacity to fulfill these expectations. It is to those concerns that we now turn.

Conditions of Work

According to Rust and Dalin (1990) not only do teachers in developing countries usually face adverse economic conditions, but the kinds of conditions they work in are at times almost overwhelming. Kenya is no different. This is evident in the responses of the teachers interviewed in this study. The respondents said that they are constrained by lack of textbooks, lack of facilities for laboratory work and consumables which are always in short supply. These conditions were described as frustrating and discouraging especially because students have to sit for national examinations and because teacher effectiveness is based on student performance on these public examinations.

Because of the lack of facilities, students at the schools of this study have to share textbooks and work in groups when doing experiments in the laboratories. However, science teachers in these schools said that too much sharing of facilities hinders effective learning and limits the

acquisition of laboratory skills. The teachers further felt that they are not able to reach students to help them. Students are not adequately prepared for national examinations and they perform poorly. When announcing the Kenya Certificate of Secondary Examination results in February of 1991, the Minister for Education confirmed that the poor performance in science subjects was not only caused by lack of the basic equipment but also by lack of familiarity with the equipment. He further noted that some students were handling the apparatus for the first time during the examinations ("Marked improvement," 1991).

The lack of adequate equipment has been aggravated by structural changes. The current (8-4-4) system of education compels all students to take sciences whether or not there are adequate laboratories or science teachers. This has resulted in many schools teaching science without laboratories or practicals ("Science teaching," 1990). As stated in chapter 2, science subjects were optional in the old system of education and hence only a few capable students chose to pursue them. Consequently, the existing laboratories initially were designed and equipped to cater for a small number of students. The government provided grants for schools to buy the required materials including textbooks. Even so, school laboratories were not well equipped. However, the government policy of making science subjects compulsory for all students in the present system of education is seen by the current teachers as worsening the problems that already exist in schools. They said that at present the laboratory space is inadequate compared to the number of students taking science subjects.

The implementation of the government policy of cost-sharing of 1986, which recommends that parents meet some of the financial and administrative burdens, has put pressure on parents who, because of the high cost of living, find it difficult to afford even textbooks for their children. It has been found that "parents pay roughly 30-40 per cent of the costs of secondary schooling in Kenya, not counting school uniforms, examination fees, or textbooks" (World Bank, 1989). This has resulted in inadequate provision of science teaching facilities in schools. The lack of adequate facilities, materials, and equipment is seen as a source of frustration and

discouragement by the respondents in this study, especially when students have to sit for national examinations and teachers are blamed for poor performance.

The respondents also felt that the large number of students taking sciences in the present system of education coupled with the lack of adequate science teaching facilities and equipment has made it difficult to hold effective science practicals and effectively prepare students for examinations. Eshiwani (1976) observed that in Kenya "science teaching in many schools is ineffective, laboratory space in some schools is inadequate and the learning facilities and environment for science is often very poor" (p. 5). He noted that "large numbers of students in science classroom or laboratories produces a decline in the equality of teaching which seems to be out of all proportion to the apparent gain in the numbers of pupils being taught" (p. 18). Apparently things have not changed much. A survey conducted in Kenya in 1989 confirmed that virtually all secondary schools in Kenya lack sufficient science equipment for the proper teaching of science subjects (Office of the President, 1989).

Despite the lack of science teaching materials teachers are expected strictly to follow the set science curriculum and adequately prepare students for the national examinations. Since the education system is examination oriented, examination results serve as the main criteria of selection of students either for higher education or wage employment. Teacher performance is measured by examination results. Success in examinations is, in many ways, equated with effective teaching and learning (Maleche, 1974). The teacher is judged by the ability to put students through the examination requirements. The ability of the school to send large numbers of its students to university has become the hallmark of good teaching. Consequently, examinations and examination results are a sensitive issue for teachers, students, parents, the government and the general public.

Every year when the national examination results are declared schools face the task of appraising their performance. Particularly schools that have not done well face an extra task of providing explanations and solutions in the face of inquiring parents and the Ministry of Education.

This explains why the teachers interviewed in this study are concerned about national examinations and student performance. However, despite the fact that teachers are grappling with inadequate facilities, insufficient teaching aids, and the relevant textbooks, when students perform poorly on examinations all of the teachers said that politicians and parents are quick to blame them for the failure. Brown noted in 1974 that in developing countries, "rarely is appreciation expressed for the quality of the teachers but only condemnation of their teaching" (p. 33). Again we see evidence that little has changed.

Another factor raised by the teachers interviewed concerns the heavy teaching loads, which they felt affected their effectiveness in teaching. As already pointed out, the rapid increase in the number of schools has made it difficult for the government to staff schools adequately, especially in science subjects. In addition, the mobility of science teachers has aggravated the shortage of qualified science teachers. This shortage, as the teachers pointed out, has manifested itself in work overload as revealed by personal timetables. Such heavy teaching loads makes it impossible for the teachers to adequately prepare for their lessons and therefore effectively teach.

For the teachers interviewed, the heavy teaching loads and the broad curriculum which is supposed to be covered within the short allocated time has brought additional pressure on them. The respondents said that because of this they had very little time for lesson preparation. This can be summarized by one respondent who stated that the shortage of science teacher means "extra work, extra marking, extra preparation during evenings, and short hours of sleep" (Interview, June 8, 1990).

SUMMARY

The discussion in this chapter draws attention to the fact that science teachers in Kenya are involved in a complex problem. Important factors that cause dissatisfaction in the teaching profession, as we have seen, are low salary, low status, poor career advancement opportunities,

and poor working conditions. Teachers in Kenya are involved in a struggle between gaining a living and satisfying the demands of the social and cultural "world" they occupy (Johnson & Bernstein, 1984). Teacher views about teaching as a career indicate the difficult position teachers face, especially the male teachers.

Whereas the female teachers see teaching as a viable career, the male teachers are torn between teaching and more lucrative and male dominated careers such as engineering. Most of the male teachers viewed teaching negatively. They argued that the teaching profession did not meet their expectations and aspirations. They are not satisfied with the conditions found in teaching and, as we have seen, leave the profession for more lucrative jobs. The teaching profession is seen as lagging behind other more modern professions. Teachers feel that they are behind their peers in other professions in all aspects of career life. But how much longer should this go on? Is teaching going to remain less lucrative compared to other professions so that it becomes a "stepping stone" to the more attractive jobs in the civil service, parastatals, and private sector? Will teachers continue being disadvantaged in all aspects of their teaching career? Will teaching remain a low status profession? Will teaching remain a negative and last resort career alternative? What steps might be taken to put the profession on a more secure footing? How are we to view what these teachers have told us? What realistically might be done? We consider these questions in the next chapter.

CHAPTER 7

MOBILITY OF TEACHERS AND EDUCATIONAL POLICY IN KENYA

As we have seen there are a number of interrelated factors that affect the mobility of science teachers in Kenya. In this chapter we consider briefly the relationship between mobility of teachers and educational policy. Clearly, educational policy in a developing country like Kenya is complicated. The analysis here suggests possible areas for consideration. These areas are considered under two main headings: perception of teaching as a career and the work experience of science teachers.

Perception of Teaching as a Career

In this study it was shown that the teaching profession is viewed differently by female and male teachers. On the one hand female teachers joined the teaching profession because they considered it as a viable career that would leave time for them to fulfil their future family responsibilities. As noted in the previous chapter, women are expected to take care of their families in terms of child rearing, preparing meals and attending to other related chores. These require time. According to the responses of the female teachers the teaching profession offers them more relaxed time to be with their families; particularly so during the long school holidays which come three times in a calendar year. Such holidays are not possible in other occupations or professions. On the other hand, as the study shows male teachers joined the teaching profession for a variety of reasons. These include mainly a failure to obtain other careers of choice, and job security in teaching. To the male teachers teaching does not seem attractive enough.

The male respondents had very high expectations for teaching as a future career. They expected a career that offers an attractive salary enabling them to achieve a high standard of

living, to afford a good education for their children, and to obtain material possessions. In addition, they expected a career that would offer advancement opportunities. Attainment of high social status was identified by the respondents as being associated with their university education. These expectations are realistic given the value attached to formal education in the Kenyan context. They have not been met. The teachers who participated said they have a low status compared to their counterparts teaching before independence. In earlier times, teachers in Kenya were among the most educated in a generally non-literate community. The teacher gained prestige from his knowledge and served as the modernizer of the village.

We can see from the study that science teachers believe that education is a means for gaining higher status. As Ali, one of the respondents said "after all that education, you would also like to have some standing and respect in society" (Interview, June 5, 1990). In Kenya there is a strong association between academic attainment and occupational status. The teachers interviewed in this study have grown up in such a society, and they have passed through an educational system controlled by competitive national examinations that select only a tiny proportion of the successful candidates for further education or wage employment. It therefore is not surprising that teachers have high expectations and are confident in their university education as a means of increasing their status.

People who have attained high levels of formal education expect to be highly valued. This being the case, one would expect graduate teachers to enjoy a status that goes with their level of education. This study, however, shows that this is not true. Among the reasons identified by the teachers interviewed to explain this situation is the scathing attacks from parents, the media, and politicians on such matters as poor examination results, morality and laxity. Politicians were cited as being in the forefront in condemning teachers and seem able to say anything about teachers without thought for the teachers' dignity. Namudu (1989) points out that "teachers in general in Kenya are described in stereotyped portraits as lazy, ignorant, resistant to change,

pedantic and lacking in substance and resourcefulness" (p. 14). Speakers in public forums advise teachers on how to accomplish the job of teaching properly.

Such derogatory public remarks about teachers become headlines in Kenya's local daily press read by over two million people. Clearly this affects teacher morale, as the teachers interviewed have pointed out. They appear helpless as they stand alone against the public. The public also tends to evaluate teacher performance on the basis of examination results. Teachers are held accountable for poor performance on examinations even though there may be other factors that contribute to students' poor performance over which teachers have no control.

There is need for parents and the public in general to note that the process of learning is more complicated. Rather than wait until examination results are declared to blame teachers, there should be joint responsibility and cooperation between teachers and parents in monitoring student progress throughout the years. Additionally, the Kenya National Union of Teachers, as the teachers union, ought to protect its members from unjustified, wholesale condemnation. Public pronouncements about teachers not only discredit them and so lower their efficiency, but they also undermine their authority (Igaga, 1982). Teachers need support and recognition in order for them to work effectively and feel valuable. Teachers need genuine motivation and encouragement. Good teachers want to devote their time and energy to their students and also want to be identified and rewarded for superior teaching performance (Rosenholtz, 1985).

Above all, the status accorded to teachers and the teaching profession depends to a considerable extent upon teachers themselves. Improved professional status must be won from a critical public. This could be done by teachers voluntarily and collectively formulating a code of conduct to be rigidly enforced by themselves, as is done by other professional groups. With such a code of conduct, teachers might feel committed to and responsible for what they have helped to create. The Kenya Science Teachers Association, which organizes the National Science Congress should encourage all science teachers to become members of the association. The association could provide the means for science teachers to meet as professional colleagues

in order to exchange ideas and discuss successes, failures and problems they encounter in the course of their teaching. Together as a group science teachers might seriously look into ways of improving the standards of science teaching and science education. Science teachers could be more involved in developing teaching and learning materials that might help make the learning of scientific concepts more easily accomplished. For example, science teachers could construct teaching aids, models, handouts as support materials for their teaching. In this way teachers might come to play a more central role in influencing public policy and perception.

As was shown, the problem of low teacher status is compounded by the attenuated career structure in the Kenyan educational system, and this has resulted in limited promotion prospects. The teachers interviewed in this study stated that there is only one headteacher and one deputy headteacher posts in a school to which many aspire. There seems little for an ambitious teacher to look forward to in career advancement other than progression to the top of the relatively low salary scale through annual increments, or a move to the limited administrative positions within the hierarchy of the education system. Limited avenues for promotion were cited by the former teachers as having contributed to their decision to leave the teaching profession for jobs in KP&TC where they anticipated chances of promotion and better prospects.

Within the school system there are positions of responsibility such as games teachers, career teachers, guidance and counselling teachers, and heads of departments. However, such posts are not recognized as promotional posts. This explains why teachers who participated in this study and who had held such posts consider themselves not having been promoted. Upward mobility in the teaching profession in Kenya requires a teacher to leave the classroom for an administrative post within the school, ministry, inspectorate, or for professional posts in teacher training colleges. Additionally, achievement in Kenyan society is assessed by upward occupational mobility and increased salary rather than by the less visible skilled performance. However, as Rust and Dalin (1990) point out, "the procedure of removing staff from the

classroom associates promotion and seniority with non-teaching tasks and downgrades the central task of the education enterprise" (p. 14).

The current government suggestion that teachers be promoted to professional posts while remaining in the classroom should be implemented. Such posts might enable teachers to achieve professional fulfillment and salary advancement while they remain in the classroom. Providing a wider range of opportunities for promotion and achievement would put teaching more on a par with other professions. As well, improved career advancement opportunity is likely to help attract and retain a greater number of good, ambitious teachers who really want to continue teaching, but who are currently forced to look for more satisfying careers elsewhere.

The Work Experience of Science Teachers

Teacher expectations are high, especially for the male teachers interviewed in this study. Public expectations are high as well. Yet the reality is that neither teacher nor public expectations are met. Teachers leave the profession, and the public berates it. What issues in policy ought to be considered? We look at two main issues which ought to be addressed: financial rewards and working conditions.

Financial Rewards

Graduate teachers in this study are not satisfied with their salaries. They say that the teaching profession offers less attractive pay packages to its employees compared to other professions in the public service. It was noted in the previous chapter that the teachers salaries are lower compared to those of their equally qualified counterparts in law, engineering and agronomy. On the other hand, parastatals like KP&TC and the private sector offer more attractive salaries and fringe benefits.

The low salaries have affected perceptions of the teaching profession. Since the ranking of professions in modern society involves comparisons of status and economic return, the teaching profession is ranked lower due to the low economic returns it offers its employees. Consequently, teaching is seen as less attractive to young people entering the labour market. The male teachers interviewed in this study did not consider teaching as a desirable career alternative because of the status issue. Additionally, the former teachers left the profession for jobs in KP&TC because of the problem of low remuneration. With their marketable skills it is not surprising that science teachers tend to leave the profession for the more lucrative jobs in the public and private sector as soon as the chance arises.

Although the current teachers have not yet left the profession, they are equally dissatisfied and discontented with their salaries. During the interviews, the researcher noted that most of them are engaged in private coaching and small businesses in order to, using their words "make ends meet." According to Rust and Darlin (1990), "poor pay leads to teachers' energies being dissipated on second jobs and moonlighting, and inevitably many of those who can find alternative employment will take it" (p. 158). Dove (1986) observed that in developing countries where salaries are low teachers often earn an extra income through a second job like private coaching, small-holdings or shop-keeping. Such activities however, may interfere with the teacher's educational duties, and teachers may regard the second job as the major occupation and teaching as a side-line which may result in poor performance.

One factor which explains why the government has not managed to increase teacher salaries to the level of other professions in the public service is related to the economic status of Kenya. The government currently spends about 40% of its recurrent budget on education. Approximately 70% of the secondary school vote goes to pay teachers salaries (Eshiwani, 1989). However, the enormous expansion of the school system in Kenya has resulted in a much larger teaching force. This large workforce has made it difficult for the government to match the material emoluments of teachers with those of the civil service. Given that there are limited resources available what

might be done? Teachers in this study pointed out that they are dissatisfied with the tendency of the Teachers Service Commission not paying their salaries on time and they felt their fringe benefits were poorly administered and inadequate. Macharia, one of the respondents said:

> The Teachers Service Commission delays to pay our salaries. At the end of the month you go to the bank and you are embarrassed by signs showing "no salaries for teachers." So you have to keep going to the bank checking for your pay. It can be very frustrating sometimes. (Interview, June 28, 1990).

Improvement in the way the education system is managed might improve the morale of teachers without incurring high expenses. The Teachers Service Commission should re-examine and re-organize its policies so that it increases its administrative efficiency such that teachers are paid on time and any other teachers problems are dealt with without delay.

Salary structures are set by the government. Over the years the government has unified salaries of the civil service under which teachers fall. Under the unified salary system professionals are paid in accordance with the number of years of training and the nature of the profession. Teaching and say engineering require the same period of training (see Table 3) but teachers are not as well paid.

Table 3

Number of years taken for training in various professions

Profession	No. of years of Training
Medicine	5
Architecture	5
Veterinary	4
Agronomy (agriculture)	3
Engineering	3
Teaching	3

Source: Commonwealth University Yearbook 1990.

Graduate teachers expect to be paid as well as engineers. Yet this expectation might not be realistic. Is it realistic for teachers to expect to be paid at the same level as engineers in the civil service? Access to engineering is more difficult, supply is limited and demand is high. Higher wages are usually a consequence. Yet teachers do vital work fundamental to progress. Are they right in expecting to be treated accordingly? Is it fair not to pay them on a par with other graduates in the civil service? These are important questions for policy.

With respect to bargaining for better salaries, if teachers are to be well paid, they need a strong professional association. These matters are more easily dealt with in such professions as engineering which have strong professional associations. Who will form such an association for teachers? The Kenya National Union of Teachers could more strongly represent the interests of its members, and continue to press for improvements in the occupational status of teachers. The union should intensify efforts to improve the public image of teachers and teaching and to initiate a concentrated public relations program to convince the public of the desirability of teaching as a career.

Teachers provide essential services for the development of the country. Given the disappointing consequences of qualified teachers leaving the profession to take up non-teaching jobs, the Kenya government needs to face this problem differently. There is need to reward competence through increased opportunities for promotion thus recognizing achievement, and provide effective administration. Such moves might make teaching more attractive, more able to hold its qualified teachers and thus protect educational standards. The salary structure of the profession increases the power of the profession to hold its members and to a large extent also influences the attractiveness of the profession to new entrants.

Research has shown that improved teachers' salaries have a remarkable positive impact on recruitment of secondary graduates into teaching (ILO UNESCO, 1983). Chivore (1988) observed that "salaries relative to those in the public and the private sector for secondary school teachers would make the teaching profession more attractive" (p. 61). He further noted that "in

both developed and developing countries, the salary is an important factor in determining the attractiveness of the teaching profession" (p. 65).

Zymelman and DeStefano (1990), in a survey conducted in sub-saharan Africa, concluded that "if other factors are kept constant, occupations offering higher salaries will attract more and or better qualified candidates than occupations offering lower salaries. If teaching is to claim well-qualified teachers, the profession will have to be made as attractive as other comparable professionals or semi-professional occupations" (p. 23). If teacher salaries in Kenya continue to lag behind other related salaries, education may continue to suffer poor recruitment and retention problems. The object of raising teachers' salaries is to improve and maintain the quality of the teaching profession as a whole. This study suggests that more than salary is an issue when considering the conditions of employment that affect teacher morale.

This study has shown that most schools do not have staff houses and that the house allowance is inadequate. Plans should be made to provide teachers with houses. Providing houses for teachers might be a strong incentive for teachers to remain in teaching especially in urban schools. In addition teachers will be able to reduce the long distances they have to travel to school. Teachers not given accommodation in schools should be given an adequate house allowance. As Ominde (1964) points out "poor housing is likely to drive people away from the teaching profession, depress the spirit of those who remain in the profession and impair their professional efficiency" (p. 108).

Although teachers complain about not being paid as well as others they perceive as equally well qualified, their main concern is about recognition and public perception, salary is a symbol of this recognition. These teachers want to be recognized for their contributions and accomplishments especially in preparing students for external examinations. While it may be more difficult to provide teachers with high salaries, it certainly would cost less to increase the amount of recognition given to teachers. Efforts to improve public understanding of the difficulty and importance of teacher's work would improve morale. Better working conditions that affect

teacher's abilities to perform their jobs effectively are also an important part of morale. It is to these that we now turn.

Conditions in the Workplace

Most secondary schools in Kenya lack the necessary facilities and equipment for effective teaching and learning of science subjects. The teaching of science subjects suffers from inadequate provision of the necessary equipment and materials (Kamunge, 1988). It is important to note that the morale of teachers and their ability to sustain high standards of work depends on availability of decent working conditions, materials, and equipment. The teachers interviewed in this study expressed frustration and discouragement because they felt they did not have the wherewithal to do their work properly. Similarly, they expressed dissatisfaction with the lengthy bureaucratic procedures which cause delays or no response at all to their requests for teaching materials and equipment.

Ironically, emphasis has been placed on science education in Kenya, yet the provision of science teaching facilities has not been adequate. The government policy that "secondary schools be provided with adequate facilities and equipment for proper teaching of science subjects" (Kamunge, 1988, p. 32) exists in theory rather than in practice. Yet it may be that in the future professional prestige depends on the perception that teachers are doing an effective job in preparing students in examinations and all that it entails.

The problem of lack of science teaching facilities seems to be aggravated by the government policy of making science subjects compulsory for all students in the present (8-4-4) system of education has resulted in increased numbers of students in science classes. Yet the intention to provide additional and appropriate physical facilities, equipment, teaching and learning materials has not been implemented (Kamunge, 1988). Secondly, the government policy of cost-sharing, in which government, communities, and parents share in the provision of equipment and other educational materials for secondary schools, has put pressure on parents who can often little

afford to pay. Some parents cannot afford textbooks for their children. The teachers interviewed are concerned about these issues. Poor working conditions are significant sources of frustration, anger, anxiety and fear (Dunham, 1976).

There is an urgent need to provide all secondary schools with adequate science facilities, equipment and materials for effective teaching and learning of science subjects. The study suggests that the government take the responsibility of equipping and ensuring that all secondary schools have adequate equipment and other materials and facilities for science teaching.

The government might involve local industry and technical institutions in helping the Science Equipment Production Unit to produce science teaching and special demonstration kits at low cost. The kits could then be distributed by the school inspectorate equitably to all secondary schools so as to remove the imbalance in the equipping of schools. Additionally, funds need to be accumulated to ensure there are regular supplies of consumables. This could be done by intensifying and organizing more "Harambee" (pull together) activities both at local and national levels to raise funds to maintain science laboratories and supply their requirements.

In many Kenyan schools science teachers have heavy teaching loads. Normally the minimum number of lessons taught is 21 and the maximum 26 lessons. However, it is not unusual to find a science teacher with over 30 lessons. Not only do they have to teach many classes, they have to deal with large numbers of students. As seen in the interview responses, the teachers say they hardly have sufficient time and energy to adequately prepare and properly teach their subjects. Together with a heavy teaching load, the teachers also complained of a broad science curriculum which must be finished within the stipulated time, and which must be finished so as to prepare students for the important national examinations. These, coupled with the lack of adequate science teaching facilities, equipment and other teaching materials, quickly bring a sense of frustration and a growing lack of respect to the work they have to accomplish. This explains the concerns and complaints about these issues raised by teachers interviewed in this study.

There is a need to increase the number of qualified teachers in secondary schools so that science teachers can have a reduced teaching load. Science teachers should have a lighter burden because they require time to effectively prepare experiments in the laboratory. The government could use the expanded teacher training facilities to increase the number of candidates trained as science teachers. At the same time special efforts should be made to retain qualified teachers in the field.

Summary

This study throws light on a number of issues that affect teachers and the teaching profession in Kenya. A teaching career is not seen as an attractive career option, and qualified science teachers leave the profession because of low salaries, poor public image, poor career advancement opportunities and unconducive working conditions. It appears that unless these issues are resolved Kenyan secondary schools and the teaching profession will continue to experience the loss of qualified science teachers to other sectors.

Althougn the provision of qualified science teachers has been a government priority the output of science teachers from the universities is not commensurate with the need (Waithaka, 1990). Additionally, as this study has shown, the teachers are not retained in the classroom. At the moment the government has embarked on a massive enrollment of school leavers for courses in education in the local universities as a way of increasing the production of graduate teachers to alleviate the serious shortage of qualified science teachers. However, this policy is partial because it does not consider the retention of such teachers.

One of the main reasons for adopting the present system of education in Kenya is to increase the number of science candidates to fill the science and science-related fields, including science teaching. However, this policy does not say how students will be encouraged to join the teaching profession. The assumption appears to be that the increase in the output of science candidates

would increase the number of candidates that might make teaching a future career. Thus the government seems to be looking at the problem of the shortage of qualified teachers from the quantitative perspective only. Instead, this study leads us to think that it would be appropriate for the government also to consider the qualitative problems that prevent school leavers from considering teaching as a viable career option and that drive qualified teachers from the profession. This might help reach a more responsible solution to the problem of the shortage of qualified science teachers in secondary schools.

The reality of the results of this study could be used as a starting point for more research. For example, the study shows that some teachers were not aware of the career options open to them. As a result they chose careers without prior consideration. This might be one of the problems affecting teachers and the teaching profession. Qualitative research methods could be used to investigate and establish the extent to which career guidance and counselling services in schools are effective in helping school leavers to make definite and informed decisions about their future careers. Appropriate information in this area will enrich and improve the understanding of why science teachers and indeed other teachers leave the teaching profession. Consequently, enable the Kenyan government to plan programs designed to retain qualified science teachers and attract more talented school leavers to the teaching profession.

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Appendix A. INTERVIEW WITH A CURRENT TEACHER JUNE 15, 1990

This interview was conducted between the researcher (CNW) and GRACE a female teacher at Hacoco Secondary School. The interview indicates that although GRACE was strongly attracted to teaching as a career, she finds the terms of service, the working conditions, and the public view of the teacher very unsatisfactory.

CNW: I am Namenge Wafubwa of Queen's University, Canada. Before I went to Queen's University, I had been a science teacher at Highway Secondary School. My teaching subjects were chemistry and physics. In addition, I was head of chemistry department. I am interested in science teachers' views about teaching as a career. Could you tell me your name please.

GRACE: I am Grace.

CNW: Are you a science teacher?

GRACE: Yes I am a science teacher. I teach chemistry and biology.

CNW: For how long have you been teaching?

GRACE: I have been teaching for ten years now.

CNW: In how many schools have you taught?

GRACE: I have been to four secondary schools: Muthambi Girls, Kangaru High School, Dagorreti High School, and now Hacoco Secondary School.

CNW: Are all these schools in the same area?

GRACE: No, Kangaru and Muthambi are in eastern province while Dagorreti and Hacoco are in Nairobi province.

CNW: Before you became a teacher, did you have an interest in teaching as a career?

GRACE: Yes. In fact before I became a teacher I used to admire my female teachers especially the way they managed to take care of their families. I saw teaching as a very good profession for a woman.

CNW: Did you find teaching to be what you expected?

GRACE: The first two years of my teaching, I enjoyed teaching but with time the interest started to wane because of the problems I encountered here and there.

CNW: Can you state the problems you experience?

GRACE: There are a number of problems. To start with there is lack of equipment. Of course as a teacher I can improvise on what I do not have and pass the message to students. However, it is not possible to improvise on everything.

GRACE: The other problem that made me start losing interest is lack of incentives in the job. You stay on one grade for a long time, you apply for promotion you do not get, you do not get a chance to advance yourself. In addition, as a science teacher, I am exposed to so much chemical hazard in the laboratories and yet there is no insurance cover. Worst of all salary is low and not commensurate to the work I do in science teaching.

CNW: What to you mean, the salary is low?

GRACE: The salary is low in the sense that when I compare my salary with that of my friends who have the same qualifications working in the private sector or in the civil service, I find that they earn much more than I do. Besides they have other fringe benefits like medical cover, they are not worried if they fall sick because the employer is taking care. Not so for a teacher! If I get sick I have to go back into my pocket to be able to get treatment.

CNW: Does that mean in teaching there are no fringe benefits?

GRACE: No. There are benefits. For example, there used to be medical allowance for teachers that has been abolished. There is the house allowance which is not given to married female teachers. Although if the school has staff houses they could be allocated to teachers irrespective of their marital status.

CNW: Could you elaborate a bit more about promotion?

GRACE: The chances for promotion are very few. I would think when teachers used to study, and be promoted on academic grounds was much better. These days you have to be promoted on merit. [laughter] that promotion on merit is beset with a lot of corruption. You need to be in good terms with the head of the school and also be very active in extra-curricula activities. If you know you are good in all that, then you apply for the so called promotion on merit. You may be called for the interview but you do not get a promotion so many of us get discouraged.

CNW: Are you suggesting that you gave up after first attempt?

GRACE: No. You can attempt several times then you give up. I tend to think that if you have served your employer for five years continuously the employer should just promote you in appreciation.

CNW: What is the general public view towards you as a teacher?

GRACE: I think teaching has lost what used to be called those days, "teaching a noble profession." The respect that used to exist for the teacher is not there any more these days. This you can see when you read in the press especially when results are out you hear teachers have been beaten by parents because their children did not do well in examination. The teacher has no power at all. For example, a teacher disciplines a student at school, the parent may come to school

and beat, scold, abuse, quarrel or call you all sorts of names. Parents treat us as if we are not in the system of bringing up these youngsters. Students have also realized that they are protected by the system and they have become completely spoiled. So I think the respect for the teacher has completely been eroded.

CNW: What has caused all this?

GRACE: I think we have lost the respect not because we are not doing the work, but because during those days the teacher was the most learned person in the area, the person with much money that could enable him or her to dress smartly, afford and own even a car, but today it is not there. There are many people educated now and with the salaries we get you cannot afford the material possession like other people so the respect has gone like that.

CNW: How do you find science teaching?

GRACE: The teaching of science is interesting, only that the present students are not enthusiastic. I would say the lot I taught the first few years of my teaching was better. Maybe because science used to be optional. Students who were good at it were supposed to take them. All this has now changed. We are teaching a whole lot of students, those who are able and those who are not able. I think because of making sciences compulsory even the teacher is finding it difficult to teach.

CNW: Does the number of students affect your teaching?

GRACE: Yes it does. You know science subjects are practical subjects. Besides, we are preparing students to sit for a final examination where they will do a practical examination individually. So the student is expected to do practicals throughout the four years so that by the time of the examination, he and she is acquainted with the methods, the apparatus, the observations he should make, and how to carry out experiments. If the number of students is small, it is possible to have them work individually. This allows the teacher to move from student to student assisting them. This way each student learns much better, he can handle the apparatus better, he can make his own observation better and make better deductions from what he has done himself. But with the large number of students the only option left is to have them work in groups of four or five. The problem with such a situation is that it is only one student who does the experiment while others act as spectators. As a consequence when it comes to the final examination such students find it difficult so they do not do well in exams. Also as a teacher you are not able to help individual students in theory and practicals.

GRACE: In addition the laboratories are too small to accommodate the large number of students. Ideally the laboratory was designed to take between 15 and 20 students. But now because of the size of the laboratory and the large number of students, students cannot work individually. Also the equipment is inadequate. For example, each stream has 40 students. If students have to carry out an experiment individually, I need 40 sets of apparatus. Yet the apparatus are not enough for each student.

CNW: Do you have enough science textbooks?

GRACE: We do not have enough science textbooks, in the 8-4-4 system of education. We have one science textbook between two students because the books are very expensive some parents cannot afford to buy for their children.

CNW: I can see you teach 30 lessons per week, is this the normal teaching load?

GRACE: I would not say that is the normal teaching load. In the former system of education I used to teach 20 lessons per week. But with the coming of 8-4-4 I have now 30 lessons per week. This is so because the number of students and the number of classes taking sciences increased. For example, in the former system a school like this one would be having two science streams in forms three and four. But now we are having four streams for both form three and form four. Form one and two have five streams each. The other problem that has contributed to this is that science teachers are not enough.

CNW: What do you mean when you say science teachers are not enough?

GRACE: The teacher's salary as I have already indicated is low. So if a teacher finds more green pastures he will move out. Therefore science teachers have been leaving the profession this way. Now when science teachers move out of the school for another profession, there is hardly anybody to replace them. This means increased teaching load for the few teachers who are left. The remaining teachers add the teaching loads of those teachers to their own teaching load. Increased teaching load means extra preparation, extra marking, extra everything.

CNW: How does the teaching load affect you?

GRACE: As a science teacher, I feel a higher teaching load affects my lesson preparation and marking of students' work. I am not able to effectively prepare and teach my lessons. Another big problem of increased teaching load is that it makes me get exhausted.

CNW: I have seen you have a science curriculum which you are supposed to follow, what are you expected of it?

GRACE: I think the curriculum developers expect too much from teachers. The 8-4-4 curriculum is too broad. Teaching this curriculum requires extra time to cover the syllabus. We have been teaching during school holidays, weekends, evenings but you still find you have too much work still uncovered. When the examinations are set, the examination council does not limit examination questions to the material that has been covered. This places students at a disadvantage if the syllabus is not covered. The curriculum developers need to know what happens in schools.

CNW: Given the fact that there are negative experiences in teaching, what would make one stay in the profession?

GRACE: Teaching is enjoyable and satisfying. When I look at the students I have taught and helped to be what they are in school and society, I feel satisfied and this has sustained me in teaching.

CNW: Supposing one were in a position to effect some changes in the teaching of science, what, in your view, needs to be done?

GRACE: A science teacher could be retained in the profession if certain conditions were improved.

CNW: Which are these conditions?

GRACE: First, there is need to raise teachers' salaries. I think that the issue of low salaries is the biggest problem facing the teaching profession. If salaries were improved then teachers might be retained. Secondly, science teachers should be given extra allowance in view of the fact that their work entails handling of hazardous chemicals which might cause harm to them. I sometimes think that some form of insurance for teachers is needed. I also tend to think that if extra allowance is given to the science teacher, it might encourage them to stick to teaching. Fourth, there is need to ensure safety in laboratories. For example, fume cupboards in the laboratories ought to be in good working condition all the time. Lastly, provide adequate science teaching materials for effective teaching of science subjects. Also there is need for science teachers to have a light teaching load. Provide more science teachers and maintain them in the schools.

CNW: Grace, I am grateful for the information you have provided. It has been very interesting talking to you. Thank you.

Appendix B: INTERVIEW WITH A FORMER TEACHER JUNE 4, 1990

This interview was conducted between the researcher (CNW) and WASIKE, a former science teacher who is currently working as a trainer at the Central Training School (CTS) of Kenya Posts and Telecommunication Corporation (KP&TC). The interview shows that although WASIKE had promotionally moved up fast in his career, he found that the terms of service, the conditions of work, and the public view of the teacher were both unattractive and unfavourable. These factors influenced his decision to leave the profession.

CNW: I am Namenge Wafubwa and a science teacher at Highway Secondary School. Currently, I am a graduate student at Queen's University, Canada. Could you please tell me your name?

WASIKE: My name is Wasike.

CNW: Would you tell me what you do for a living?

WASIKE: I work with Kenya Posts and Telecommunications Corporation as a trainer at the Central Training School in Nairobi.

CNW: For how long have you been working at CTS?

WASIKE: Twelve years.

CNW: Is this your first job since leaving university?

WASIKE: No. Before I joined KP&TC I was a science teacher. I taught for seven years in three secondary schools: Lugulu Girls High School in Bungoma District, Musingu High School and Muhila Secondary School. The last two schools are both in Kakamega District.

CNW: That is very interesting. Incidentally, I am carrying out a research on "mobility of science teachers from secondary schools to other employment." I am interested in the former science teachers' views about their experiences of teaching as a career. More specifically, I want to investigate the factors that influenced their decisions to join the teaching profession in the first place, and their reasons for quitting. To begin, please tell me how you became a teacher?

WASIKE: After my "A" levels, I got a scholarship to go to Oregon State University U.S.A. for a three year B.Sc. course. When I came back in 1971, I reported to the Directorate of Personnel Management for deployment. At that time there was a serious shortage of qualified science teachers. Because of this I was asked to report to the University of Nairobi for the postgraduate diploma in education. So I went to the university and enrolled in the program. That is how I trained as a teacher.

CNW: Did you have interest in teaching as a career?

WASIKE: No, not initially. As a matter of fact, I had no intentions of becoming a teacher at all. But when I was given a scholarship by the Government, I was given

a condition that I had to work at least for two years for the government in whatever department. Because of this condition I had no choice.

CNW: Would you describe to me the problems you encountered in teaching?

WASIKE: Some of the problems I encountered include: shortage of textbooks, shortage of laboratory equipment, and heavy teaching loads.

CNW: How did you manage teaching with all the shortages?

WASIKE: Okay I will go through this step by step. I will begin with shortage of textbooks. To overcome the problem of students' textbooks, two or three students would share a textbook. In some cases, since by sharing students could not have access to the textbook whenever they needed it, I would give written notes on the chalkboard to be copied so that each student would have something for reference. The other problem relates to the shortage of laboratory equipment. To solve this problem I had students working in rotation in groups of six. This was done in cases where equipment was not enough to go round for each student. In the case of heavy teaching load, there was nothing I could do since there was a shortage of science teachers. So that meant extra work, extra marking, extra preparation during the evening, short hours of sleep to make sure that I am ready for next day.

CNW: Mr. Wasike, if you allow me to go back a little, what exactly made you decide to leave the teaching profession for KP&TC?

WASIKE: The main reason for quitting teaching was the low remuneration.

CNW: What do you mean by low remuneration?

WASIKE: As a teacher in the public service my earnings were so low I could not be able to lead the kind of life I wanted to. When I compared my salary with those of my friends with similar qualifications, I felt convinced that there was something amiss. I had to do something about it. This made me less and less satisfied with my teaching job. I felt I needed to look elsewhere for what they call "green pasture" because I knew my knowledge and skills would be useful in other places apart from teaching. Actually the take home pay is very important. I had been promoted to the post of a headteacher within a short time, which was good. But the problem again was the remuneration was very low. Actually, this promotion brought very little monetary and status change.

CNW: What benefits did you have besides your monthly salary?

WASIKE: Generally, in teaching, house allowance is the available benefit again, it is not adequate. The allowance could not allow me to rent a decent house to live in especially in places where rents are too high. In addition the procedure that one has to pass through to get the allowance is tedious and long. Sometimes a school could provide houses for teachers but again not all schools did.

CNW: What do you think could be done to retain science teachers in secondary schools?

WASIKE: There are a number of things which could be done. Firstly, there is need to improve the remuneration of teachers to make it comparable to those paid to people of similar qualifications in other sectors. So if the government could follow what the private sector has done it might retain teachers. Secondly, there is need for more science teachers so that science teachers have a light teaching load to handle. Also if there could be enough science teaching materials so that each student can handle the apparatus, do the practicals, learn more to enhance on the theory this will make the teaching of science effective. More important the curriculum developers should set a curriculum that is manageable within the given time because in most cases you find the curriculum is too wide. Also the curriculum should be developed with full view of the school situation in terms of teaching facilities. Lastly, to stop the flow of science teachers to the private sector or parastatals, there is need to give them promotion where they are as science teachers (in the classroom). The science teacher promoted this way will be proud to be able to disseminate his experience to the newly trained teachers or newly qualified university graduates because he has been there and he has been recognised. He will talk with authority that I have taught here for this number of years and I have been promoted to this and that.

CNW: What was the public view about teaching and you as the teacher?

WASIKE: The teacher has lost respect from the public.

CNW: What do you mean the teacher has lost respect?

WASIKE: In the past teachers were few. For example, before independence teachers were some of the best paid workers around. In those days teachers were among the few people in the community whose pay could enable them to afford and own a car, put up decent houses, and do all sorts of things that go with modern life. Because of all these, teachers were well placed in society and they were highly respected. These days all this has changed. What has happened is that now there are many people who have gone into the private sector, into business etc. where they are making a lot more money than the teachers. Given that the cost of living has gone up, teachers are now on the wrong end of the spectrum. In effect the businessman and other people have taken away the respect which the public accorded the teacher because of the coveted economic position he or she occupied in comparison to other people.

CNW: Could you say that this low public image contributed to your decision to leave the profession?

WASIKE: Yes. I would say that teachers have become demoralized. They feel that they are not being appreciated as much as people like the businessman and those working in other places.

CNW: Do you think the mobility of science teachers will stop?

WASIKE: I don't think it will be possible for science teachers to stop leaving the profession so long as the remuneration and other material benefits remain incomparable to those in other sectors of the economy. What all this means is that

the teacher feels compelled to join institutions which offer better salary packages and related fringe benefits.

CNW: Given the that there are problems in the teaching profession that made you decide to leave, what in your opinion keep some teachers in the profession?

WASIKE: At the moment I really cannot see what can make somebody stick in teaching except of course lack of alternatives. Also we have some teachers who have farms to develop or small businesses to run. For such teachers teaching is most appropriate because they are able to supervise their work and earn an extra income. Otherwise as I said it is hard to rely on teaching income.

CNW: Mr. Wasike thank you very much, it was a very interesting conversation.

Vita

PERSONAL INFORMATION

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1973-1976 Misikhu Girls Secondary School, Bungoma

1978-1981 Kenya Science Teachers College

1981-1985 University of Nairobi, B.Ed. (Science, with Honours)

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EXPERIENCE

1981 Teacher, Kisoko Girls Secondary School, Busia

1985-1989 Teacher, Highway Secondary School, Nairobi

1990-1991 Research Assistant, Faculty of Education, Queen's University

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1981-1985 Ministry of Education Scholarship to Nairobi University.

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